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A SIMPLE BEDSIDE TEST FOR LIVER FUNCTION

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Mallen *et al.* (1950) described a test for abnormalities of serum protein. A drop of serum is mixed with a drop of strong Lugol's solution and if precipitation occurs the test is positive. Many of the tests used to determine liver function depend on the presence of abnormal serum proteins either quantitatively or qualitatively, and this applies to the tests of colloidal gold, thymol turbidity, thymol flocculation, and the albumin-globulin ratio. Mallen showed that the stronger the precipitation in the 'iodine test' the more abnormal was the albumin-globulin ratio (A : G ratio) and that there was quite a close correlation with the cephalin-cholesterol flocculation test. It was felt that as the iodine test was so simple to perform, it deserved further investigation and correlation with some of the usually performed liver function tests.

It must be emphasized that the title of this paper is really a misnomer as the test is for abnormal proteins in serum; but as many of the liver function tests depend on this abnormality, it seemed reasonable to apply this iodine test also as a test for liver function. It must be borne in mind that the iodine test will give positive reactions in any condition that will cause sufficient alterations of the serum proteins (quite apart from liver disease) but this unfortunately is also a defect in those other liver function tests which become positive because of changes in the protein fractions.

Mallen showed that the iodine test depends on the precipitation of globulins. The test to be described was recorded by Mallen *et al.* and no claim to originality is made in this paper.

THE IODINE TEST

The only reagent used is strong Lugol's solution prepared by mixing 20 gm. of iodine with 40 gm. potassium iodide in a mortar and dissolving in distilled water to make 300 ml.

The test is done by mixing one drop of the patient's serum with one drop of the iodine solution on a glass slide. The result is read usually within one to two minutes:

1. *Negative Reaction.* The mixture remains transparent; the serum shows only a change of colour, owing to its mixture with the iodine solution.

2. *Very Strongly Positive* (*4-plus*). The serum immediately forms a heavy amorphous dark brown to black precipitate.

3. *Strongly Positive* (*3-plus*). The serum shows a heavy granular precipitate.

4. *Moderately Positive* (*2-plus*). The precipitate is definitely granular but lighter than the above.

5. *Weak Positive* (*1-plus*). A very fine precipitate occurs.

The difference between a positive and a negative is clearly seen; but if there is any difficulty in distinguishing a weak positive from a negative, the test may be compared with a mixture of a drop of iodine solution with a drop of water.

RESULTS AND DISCUSSION

It was firstly necessary to determine whether the test would give false positive results. Thus 235 sera, which had come to the Department of Bacteriology for the routine Wassermann examination, were tested with the iodine solution. Most of these cases were presumably normal nurses and pregnant women considered to be in good health, but the sera of patients (both male and female) known to be ill were also included.

In this series of 235 tests, there were 222 negatives whose history and examination in no way suggested liver disease. There were three weak positives (1-plus), where liver damage was not suspected but unfortunately these could not be traced for further tests. There were two moderate positives (2-plus), one of these was a diabetic and the other had been treated for an ulcer on the penis. Further tests were again not available. Four cases showed a strong positive (3-plus), and of these one had a hepatomegaly and splenomegaly and abnormal liver function tests; one had no suspected liver disease but the liver function tests were abnormal, and the remaining two cases could not be traced. To make up the total there remained four cases, all of whom had a history or an examination, suggestive of liver disorder but in whom the iodine test was negative. Three of these had normal liver function tests and the fourth had normal thymol turbidity, thymol flocculation and colloidal gold tests but the A : G ratio was slightly abnormal.

Thus the above results suggest that a false positive reaction for the iodine test is distinctly unusual.

A comparison was then made between the iodine test and a battery of the usual liver function tests, namely the A : G ratio, thymol turbidity, thymol flocculation and colloidal gold tests. Sera sent to the Department of Chemical Pathology for the above routine liver function tests were also subjected to the iodine test. There were 116 tests in this series. A comparison of the iodine test with the other four tests (the battery) is shown in Table I.

TABLE I.—A COMPARISON OF THE IODINE TEST WITH FOUR LIVER FUNCTION TESTS (A : G RATIO, THYMOL TURBIDITY, THYMOL FLOCCULATION AND COLLOIDAL GOLD)

Iodine Test \ *Tests of the Battery*	0 *All of the Other 4 Tests Negative*	1 *One of the Other 4 Tests Positive*	2 *Two of the Other 4 Tests Positive*	3 *Three of the Other 4 Tests Positive*	4 *All of the Other 4 Tests Positive*	*Totals*
Negative 0	55	7	4	2	0	68
1-Plus 1	0	6	1	0	2	9
2-Plus 2	1	3	3	1	1	9
3-Plus 3	1	1	2	2	1	7
4-Plus 4	1	3	2	2	15	23
Totals ..	58	20	12	7	19	116

Professor Hales (Department of Mathematics) did the statistical analysis of these results. The data of the Table may be used to estimate the correlation between the results of the battery and the iodine test. The correlation coefficient r is found to be 0.755, the 99% fiducial or confidence limits being 0.631 to 0.842.

The same data can be used to derive equations for predicting the results of the iodine test from the battery and *vice versa*. The equation for predicting the result of the iodine test from the results of the battery is:

$$y = 0.815x + 0.216.$$

For $x = 1$, $y = 1.031$.

This means, that 1-plus in the iodine test corresponds very closely with one of the battery tests positive.

The corresponding equation for predicting the results of the battery from the iodine test is:

$$x = 0.700y + 0.372.$$

The conclusion one comes to is that, if the iodine test is positive, one or more of the tests done in the battery will most probably be positive. If one considers column one of Table I, it will be seen that with the iodine test of 1-plus, there were no cases where all the other liver function tests were negative; with the iodine test of 2-plus, only one case showed all liver function tests negative and this case was one of cardiac failure with a non-tender hepatomegaly; with the iodine test of 3-plus, there was only one case which had all the other tests negative and this case was grossly jaundiced (serum bilirubin 24 mg.%) with an enlarged liver and gall bladder; with the iodine test of 4-plus, there was one case with normal liver function tests and he was a man grossly jaundiced with a nodular hepatomegaly down to the umbilicus. (This case. C. v. d. B., will be considered in more detail later.)

Consideration of the above cases clinically suggests that probably the battery of tests is wrong and the iodine test correct.

The difficulty in this investigation is that one must, of necessity, compare this new test with other tests which are known to be unreliable. The liver function tests of the battery may be negative in undoubted cases of liver disease and, on the other hand, in conditions which we do not designate as liver disease, these so-called liver function tests may be definitely abnormal. Frequently the question arises, in cases where there is disagreement between the iodine and the other tests, as to which is the one more likely to be significant. In an attempt to decide this, graphs were produced plotting the percentage of cases against the result of the test. In Figures 1, 2, 3 and 4 the percentages are of 156 tests, and in Figures 5 and 6 of 116 tests. It was suggested that in the case of the A : G ratio the percentage of cases be plotted against log. (A : G ratio) instead of against the ratio itself. Figure 5 shows the use of the A : G ratio and Figure 6 the use of the log (A : G ratio). The graphs of these two are very similar. The normal values of the tests were: iodine test negative, thymol turbidity up to 4, thymol flocculation 0 or 1, colloidal gold 0 or 1, and A : G ratio 1.3 and over.

The ideal test is one in which the distribution of the quantities measured in the test are non-overlapping. In other words the test is either definitely positive or definitely negative with no cases in the zones adjacent to the dividing line between normality and abnormality. If there are many cases in the adjacent zones between normal and abnormal then it is easy to see how a very small technical error can push many of the normal cases into the abnormal area and *vice versa*; in other words, the 'scatter' is considerable and a single reading of the test is unreliable. From the graphs it can be seen clearly that the iodine test approaches much closer to the ideal than any of the others and that the worst test from this point

of view is the A : G ratio, the other three tests falling into an intermediate group. Thus it would appear that

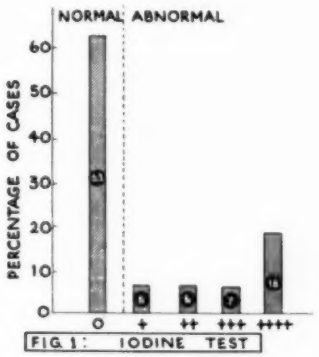

FIG. 1: IODINE TEST

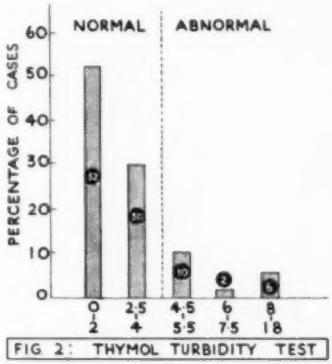

FIG. 2: THYMOL TURBIDITY TEST

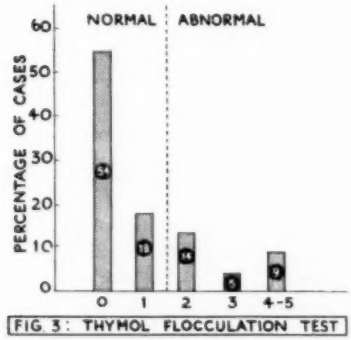

FIG. 3: THYMOL FLOCCULATION TEST

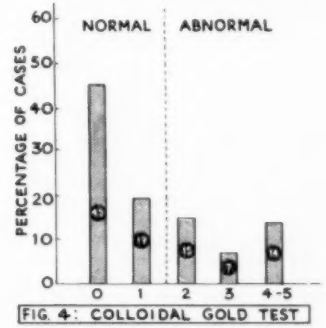

FIG. 4: COLLOIDAL GOLD TEST

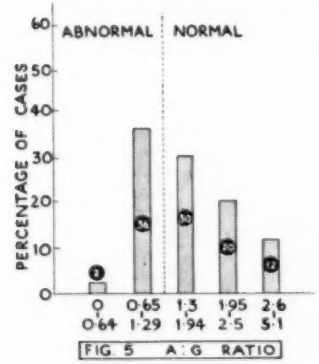

FIG. 5 A:G RATIO

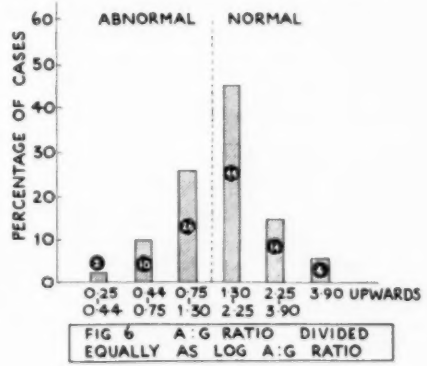

FIG 6 A:G RATIO DIVIDED EQUALLY AS LOG A:G RATIO

not only is the iodine test the most simple to perform but it is also the most reliable to read, as the risk of confusing a positive with a negative is small. It is of interest that, in the majority of those cases where there was disagreement between the iodine test and the other tests, the A : G ratio was the one that differed. It

has been shown that this ratio is thoroughly unreliable and thus the conclusions to be drawn are that in cases of disagreement the iodine test is the one more likely to be correct.

Table II shows liver function tests of a patient, (C. v. d. B.), done over a period of four months. This is the same case where the iodine test was strongly positive and all other tests negative. This patient showed a 4-plus iodine test from the time of his admission onwards but it will be seen, according to the other tests, that for at least a week the liver function tests were normal. In the period in which the battery of tests went from negative to strongly positive, the patient steadily improved and his serum bilirubin fell towards normal. Cases with gross liver disease which have liver function tests normal are not uncommon. It is worth stressing again that liver disease cannot be ruled out even though all the liver function tests are normal; if the clinical picture is that of hepato-cellular disease then liver disease must be diagnosed. In a recent case, which died in cholaemia, all these liver function tests were negative and the iodine test was also negative which shows not unexpectedly that the iodine test is not invariably positive in liver disease.

TABLE II.—LIVER FUNCTION TESTS OF C.V.d.B. OVER 4 MONTHS

Date	*Iodine Test*	*A : G Ratio*	*Thymol Turbidity*	*Thymol Flocculation*	*Colloidal Gold*
3 January 1951	++++	1·6	2·5	0	0
10 January 1951.. ..	Not done	Not done	1·5	0	0
26 January 1951.. ..	Not done	Not done	3·5	2	2
13 February 1951 ..	Not done	0·63	5·5	4	4
21 February 1951 ..	Not done	0·67	4·5	3	Not done
6 March 1951	Not done	Not done	5·5	4	5
17 March 1951	++++	0·73	5·5	4	5
14 April 1951	++++	Not done	9	4	5
3 May 1951	++++	1·15	7	4	5

CONCLUSION

The iodine test is a simple bedside test which can be performed quickly by any general practitioner in his rooms or in the patient's home. The patient's serum bilirubin, blood urea or Wassermann reaction do not affect the result. If the serum is separated from the clot and kept at room temperature for even five days it will not have altered its reaction to the iodine. Mallen states that haemolysis alters the test but that has not been the experience in this series. A few red cells mixed with the serum will not alter the test reaction. If the test is positive it is probable that one or more of the other liver function tests depending on abnormal serum proteins will also be positive. In cases of discrepancies, especially with the A : G ratio, the iodine test is the one more likely to be helpful.

An attempt was made to simplify the test by using whole blood instead of serum but this gave very varying and unreliable results.

SUMMARY

A drop of serum containing abnormal proteins mixed with a drop of an iodine solution results in the formation of a precipitate.

Many of the accepted liver function tests are not tests of liver function but depend on the presence of altered serum proteins.

The iodine test is a test for abnormal serum proteins and may thus be used as a test for liver function.

The results of the iodine test are compared with the A : G ratio, thymol turbidity, thymol flocculation and colloidal gold tests. If the iodine test is positive, one or more of these tests will probably also be positive; if the iodine test is negative, it is most probable that all the other tests will be negative.

Distribution graphs indicate the unreliability of these liver function tests and suggest that the iodine test is the most dependable. Examples of discrepancies are given and these suggest that where the iodine test is negative and one of the other tests disagrees, the iodine-test result is the more likely to be acceptable.

I should like to thank Professor Linder of the Department of Chemical Pathology and Professor van den Ende of the Department of Bacteriology for allowing me to use the sera sent to them for investigation. Prof. A. L. Hales of the Department of Mathematics gave generously of his time in making the statistical calculations. I am grateful to Professor Forman and Dr. Landau for constructive criticism. Miss L. Chanarin was most helpful in the construction of the many graphs from which the final results were derived.

REFERENCE

Mallen, M. S., *et al.* (1950): Amer. J. Clin. Path., **20**, 39.

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VAN DIE REDAKSIE

BEPERKING OP MEDIESE PRAKTYK

Wanneer professionele verhoudings ten einde loop in 'n praktyk, dan gebeur dit dikwels dat die persoon wat daarin aanbly begeer, om so ver moontlik, beskerm te word teen mededinging van die kant van sy gewese vennoot. Hierdie toestand ontstaan wanneer 'n vennootskap ontbind en 'n assistent, of plaasvervanger, sy huurder verlaat, veral wanneer daar 'n praktyk gekoop word. Al het sommige praktisyns daar anders oor gedink, kan sodanige beskerming nogtans, in 'n bepaalde omstandigheid, verkry word by wyse van 'n paragraaf, 'n sogenaamde beperkingsklousule, wat dan deel word van die ooreenkoms tussen beide partye. Die belangrikste vraag ontstaan dan tot welke mate die howe sulke bepalinge sal toepas. Hierdie moeilikheid spruit uit die feit dat hier twee teenstrydige grondbeginsels op die spel is.

Die eerste een is dat die hof altyd huiwerig is om enigiemand te strem in die uitoefening van sy beroep. Die ander is dat die hof, netso, nie sal aarsel om 'n geldige kontrak te bekragtig nie. Dit is dus duidelik dat daar in elke ooreenkoms omtrent 'n beperking om te praktiseer, hierdie twee beginsels noodwendiglik in onmiddellike en onverenigbare stryd bring met mekaar.

Die hof behandel hierdie moeilikheid deur elke geval te benader vanuit 'n regverdige oogpunt en pas alleenlik dáárdie beginsel daarop toe wat, na sy mening, billikerwys gehandhaaf moet word.

Alle beperkende byvoegsels word *prima facie* as nietig beskou en die geneesheer, wat 'n beperkingsklousule wil toepas, moet instaat wees om te bewys dat sulks redelik noodsaaklik is vir die beskerming van 'n wettige belang, wat hy het in so 'n praktyk. Dit moet in dié sin redelik wees, dat dit inagneem beide die gebied waarin dit van krag sal wees en ook die tydsduur daarvan. Heel aan die begin moet daarop gelet word dat so 'n beperking miskien as te wyd beskou sal word indien dit die beoefening strem van 'n bepaalde vertakking van die beroep wat verskillend is van dié wat deur die ander party beoefen word, b.v. 'n snykundige mag nie sy gewese vennoot of helper beperk om, as internis, te praktiseer nie. Die vraag of die area sowel as die tydsduur vasgelê in die beperking redelik, of

EDITORIAL

RESTRAINT UPON MEDICAL PRACTICE

When professional relationships in a practice are terminated, the party who remains in the practice may often wish to be protected as far as possible from the competition of his former colleague. This arises when a partnership is dissolved, when an assistant or locum tenens leaves his employer and especially in the case of the purchase of a practice. Although some practitioners may have thought otherwise, such protection can, in a proper case, be obtained by means of a clause, called a restraint clause, being made part of the contract between the parties. The vital question arises to what extent such clauses will be enforced by the Courts. The difficulty is created by the existence of two conflicting legal principles.

The first is that the Court is always reluctant to restrain anyone from freely exercising his vocation. The other is that the Court is equally reluctant not to enforce a valid contract. It is obvious that every contract in restraint of practice necessarily brings these two principles into immediate and irreconcilable conflict.

The Court deals with this dilemma by approaching each case from the point of view of fairness and enforcing that principle which in the particular case it holds reasonable to enforce.

All restraint clauses are regarded as being *prima facie* void and the medical practitioner who wants to enforce a restraint clause must be able to show that it is reasonably necessary for the protection of a legitimate interest he has in the practice. It must be reasonable in this sense both in respect of the area in which it is to operate and in respect of its duration. It must be noticed at the outset that a restraint will probably be held unreasonably wide if it restrains the carrying on of a specific branch of the profession different in character from that carried on by the other party, e.g. a surgeon is not entitled to restrain his ex-partner or assistant from practising as a physician. Whether the area and the duration of the restraint is reasonable or not will depend upon the nature and extent of the practice and the relationship which

onredelik is, sal van die geaardheid en die omvang van die praktyk afhang en van die verhouding wat daar was tussen die betrokke partye. Dit is belangrik om te onthou dat, indien dit beskou word dat die beperking te wyd was met betrekking tot die gebied sowel as tot die tydsduur, die hof dan die hele saak as ongeldig sal beskou. Hy sal nie uit daardie kontrak 'n bepaalde gebied of tydperk afbaken, wat deur hom beskou word as redelik nie, indien die betrokke partye nie self reeds sulks gedoen het nie. Dit is derhalwe belangrik vir geneeshere om, indien hul so 'n beperking wil toepas, te fouteer aan die matige kant.

Om enige definitiewe leiding te gee, oor welke area as redelik beskou sal word, is onmoontlik; maar by wyse van voorbeeld kan geillustreer word wat kenlik as onredelik wyd beskou word. 'n Praktisyn, wie se praktyk in die Kaap is, sou heel verstaanbaar nie geregtig wees om sy kollega te weier om op enige plek in die Unie of selfs, miskien, in enige deel van die provinsie te werk nie. Dit kan in die algemeen dus gesê word dat die beperking uitsluitlik sal doel op dié gebied waarin mededinging deur 'n vorige kollega in alle waarskynlikheid tot nadeel sal strek van die geneesheer.

Ten opsigte van die tydsduur was die howe steeds nog meer toegeeflik en die afwesigheid van 'n tydsbepaling sal dus nie noodwendig so 'n beperking oneg maak nie indien dit andersins redelik is. Natuurlik, hoe beperkter die area is, hoe geldiger sal die tydsbepaling word.

Laat ons nou die verhouding tussen die betrokke partye betrag. Die howe was, meer as in ander gevalle, tegemoetkomend gewees m.d.o. op die beskerming van 'n koper van 'n praktyk teen mededinging van die kant van die verkoper daarvan. Dit is duidelik dat, tensy die koper beskerm word, die klandisiewaarde wat gekoop is waardeloos gemaak kon word deur die mededinging van die verkoper. Die geval van 'n vennoot, wat die praktyk verlaat, is gelyk aan dié van 'n verkoper, omdat ook hy sy aandeel van die klandisie verkoop aan sy gewese vennoot. Waar dit 'n assistent betref, is die omstandighede oor die vasstelling daarvan ietwat ingewikkelder, by 'n bepaalde geval. Hy sien nie af van enige aandeel aan die klandisiewaarde nie, maar hy het die geleentheid om, gedurende sy dienstyd, bekendheid te verwerf onder die pasiënte van sy werkgewer. Laasgenoemde het dáárom reg op 'n mate van beskerming. Die omvang van dié beskerming sou afhang van die aard van die praktyk, die status van die helper, asook van die periode waarvolgens hy in diens geneem was.

Met betrekking tot plaasvervangers, indien daar enige beperking hoegenaamd toegepas moet word sou die hoofsake wat oorweging moet ontvang, wees, die tydperk gedurende welke die *locum tenens* waargeneem het, as sulks in dáárdie praktyk, asook die aard en omvang van die werk.

Die beperkingsartikels waarna hierbo verwys is, raak, natuurlik, geensins die verpligting wat daar rus op vorige kollegas, om geen pasiënte af te rokkel van die werkkring wat hy verlaat het nie.

Hierdie is dan die algemene leidrade wat die howe volg wanneer die geldigheid van 'n beperkingsklousule voor hom dien; maar dit is tog duidelik dat elke geval steun moet ontvang uit sy eie omstandighede en één geval kan nie meer wees as net 'n algemene vingerwyser vir andere nie.

existed between the parties. It is important to remember that if the restraint is held to be too wide either as to the area or as to time, the Court will regard the whole restraint as invalid. It will not carve out of the contract an area or a time which it regards as reasonable, if the parties themselves have not done so. It is wise, therefore, for practitioners who wish to impose a restraint clause to err on the side of moderation.

It is impossible to give any precise indication about what area would be regarded as reasonable, but an example will illustrate what would obviously be unreasonably wide. A practitioner, whose practice is confined to Cape Town, would clearly not be entitled to restrain his colleague from practising anywhere in the Union or even, probably, anywhere in the Province. In general it can be said that the restraint must be confined to the area in which the competition of the former colleague will in all probability be to the injury of the practitioner.

In regard to time the Courts have been less strict, and the absence of a time limit will not necessarily make a restraint void if it is otherwise reasonable. Of course the more restricted the area, the greater the latitude which will be allowed for the duration of the restraint.

Turning now to the relationship between the parties: the Courts have been more generous than in other cases in their protection of a purchaser of a practice from the competition of the seller. It is clear that unless the purchaser were protected, the goodwill purchased could be rendered valueless by the seller's competition. The case of the partner who leaves a practice is analogous to that of a seller, for he too is selling his share of the goodwill to his former partner. In the case of an assistant the position is more difficult to determine in a particular case. He does not part with any share of the goodwill but he has had an opportunity, during his employment, of becoming known to the patients of his employer. The latter is, therefore, entitled to some protection. The extent of the protection would depend upon the nature of the practice, the status of the assistant and the period for which he had been employed.

In regard to locum tenencies, if any restraint is to be enforced at all, the main circumstances to be considered will be the time during which the locum acted as such in the practice concerned and the nature and extent of the practice.

The restraint clauses mentioned above do not, of course, in any way touch the obligation upon a former colleague not to solicit any patients away from the practice he has left.

These then are the general principles which the Court applies when the validity of a restraint clause comes before it; but it is obvious that each case must depend on its own circumstances and one case cannot be more than merely a general guide in others.

ACTH IN SCHAMBERG SE SIEKTE

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In 1901 het Schamberg [5] 'n progressiewe pigmentdermatose beskryf wat hoofsaaklik die distale gedeeltes van die ledemate aantas en gekenmerk word deur klein, perifeerwaarts uitbreidende rooi puncta met donker pigmentasie. Die toestand berus blykbaar op 'n kutane kapillaritis van onbekende etiologie. Spontane genesing mag plaasvind maar geleidelike voortskreiding is kenmerkend van die klassieke beeld.

Hier word 'n tipiese geval van Schamberg se siekte beskryf wat suksesvol behandel was met ACTH.

Geval: 'n 31-jarige blanke manlike klerk, het 18 maande gelede 'n klein jeukende, rooi, onreëlmatige kolletjie op die dorsum van sy linker enkel opgemerk. Hierdie letsel het oor 'n periode van ses maande stadig groter maar terselfdertyd ook asimtomaties geword. Hierna het groepe van simmetries verspreide letsels tevoorskyn gekom op die onderste ledemate en wel in die volgorde van die dorsale gedeeltes van beide voete (Fig. 1), beide onderbene en dye. Ongeveer sewe maande vóór opname is die volare aspek van beide onderarms en die mediale gedeeltes van beide bo-arms op 'n soortgelyke wyse aangetas. Die kop, gesig, romp, genitalië, handpalms en voetsole was nooit aangetas nie en, met uitsondering van die eerste was dié wat gevolg het, stil verlopend.

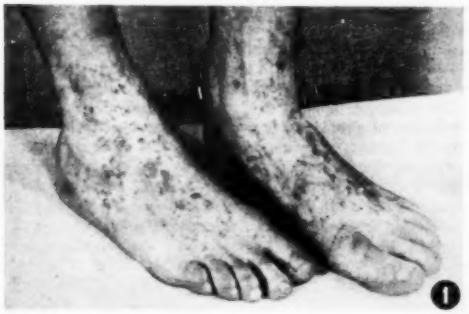

Fig. 1. Schamberg se siekte.

Na 'n wisselende tydperk het die eriteem van die letsels verander na 'n donkerbruin en later ligbruin, pigmentasie wat in die sentrum begin en perifeerwaarts gesprei het.

Ook was verneem dat oefening en warm baddens die letsels meer aktief gemaak het. Met uitsondering van aanvalle van seerkeel het die pasiënt geen verdere klagtes gehad nie.

By ondersoek was daar met uitsondering van die dermatologiese afwykings en die chroniese tonsillitis geen verdere afwykings te vinde nie. Die letsels was alleenlik op die ekstremiteite perifeerwaarts geleë. Aan die arms was hoofsaaklik die volare aspek van beide onderarms aangetas, terwyl die grootste konsentrasie aan die bene en op die dorsum van beide voete was (Fig. 1). Daar was ongeveer 80 aktiewe letsels waarvan sowat één helfte op die bene was en die ander op die arms. Die aandoening het hoofsaaklik bestaan uit die sogenaamde rooipeperkorrels wat in maculae gerangskik was en 'n neiging getoon het tot perifere verspreiding deur die toevoeging van nuwe letsels. Terselfdertyd, het die ouer letsels in die sentrum verdwyn met nalating van verspreide eriteem en intens bruine pigmentasie. Daar was geen opvolgende velatrofie of verlies van hare nie. Die letsels het gewissel van speldpunt grootte, tot ongeveer twee sentimeter in deursnee. Die samesmelting van verskillende naby liggende letsels het as volg gehad die vorming van groteres met onreëlmatige buitelyn. Die groot meerderheid van letsels het 'n mengbeeld van eriteem en pigmentasie getoon.

Die gesig van die pasiënt het enkele xanthomata onder beide oë getoon.

Spesiale Ondersoeke:

Besinkingsnelheid: 6 mm. in die eerste uur.
Hemoglobien: 110%.
Rooiselle: 5,550,000 per k.mm. Deursnit 7.5.
Witselle: 11,100 met 'n normale differensiële telling.
Bloedplaatjies: Normaal.
Protrombien: 100%.
Alkaliese fosfatase: 12 King-Armstrong eenhede.
Timol-troebeling: 5.
Timol-vlokking: 0.
Serum-cholesterol: 180 mg. per 100 ml.
Totale serum-proteïene: 6.5 gm. per 100 ml.
Albumien: 4.03 gm. per 100 ml.
Die elektroforetiese albumien, gamma- en beta-globulienkurwes was normaal terwyl die alfa-globulienkurwe effens verbreed was.
Koue agglutinien was nie teenwoordig nie.
Direkte Coombs-toets: negatief.
Wassermann reaksie: negatief.
Rickettsiae komplement-bindingstoetse: negatief.
Bepaling van vitamien C in plasma was nie gedoen nie, omdat die pasiënt voortdurend vitamien C toegedien is.
Stollingstyd: 3 minute.
Bloedingstyd: 2½ minute.
Kapillêre fragiliteitstoets volgens Hess: sterk positief.

Bloedings het alleen plaasgevind in reeds bestaande letsels en veral in die aktiewe perifere dele. Letsels sonder pigmentasie het slegs groter geword. By hierdie eerste toepassing van die toets het bloedings in ongeveer 85% van die letsels plaasgevind. Aangesien Unna [4] opgemerk het dat gestude èn verwyde oppervlak kapillaarvate die voorkoms van petechiae kan toon, is gebruik gemaak van die vaatvernouende uitwerking van adrenaline. Hierdeur sou die eriteem-komponent in die letsel dan òf verdwyn, òf die ontwikkeling daarvan teëgewerk word. Minder as een minim is in die nabyheid gespuit en wel só dat dit deur verdunning self geen invloed op die letsel sou uitoefen nie. Die gevolg was tweeledig: die letsels het kleiner geword en die kleur het verander van donker na helder-rooi. Ook kon die bloedings blykbaar tot 'n mate beheer word deur inspuiting van adrenalien vóór verwydering van die persband.

Mikroskopiese Ondersoek. Die biopsie op die onderarm gedoen was dié van 'n tipies aktiewe letsel.

Die epidermis het 'n matige interstisiële edeem, intrasellulêre vakuoles en 'n verdunning van die stratum spinosum getoon, maar geen abnormale verhorening nie. Die papillêre en sub-papillêre lae van die corium was edemateus en het bondels ope kapillaarvate getoon. Daar was ekstra-vaskulêre rooiselle onder die epidermis. Die vaatwande het endoteliale swelling, maar geen hialine ontaarding, abnormale verwyding, of angiomateuse neigings getoon nie. Groepe peri-vaskulêre selle, bestaande uit monosiete met 'n mindere mate van limfosiete en enkele fibroblaste, was teenwoordig. Neutrofiele leukosiete was afwesig. Enkele sub-epidermale chromatofore was teenwoordig maar geen hemosiderien was sigbaar nie. Onder die midde-corium en in die senuwees en epidermale aanhangsels was geen abnormaliteite nie. In 'n bevrore snit, wat met Sudan III gekleur was, was geen abnormale vet sigbaar nie.

Volgens die maatstawwe van Wise [1] is die mikroskopiese beeld dus ook definitief dié van Schamberg se siekte.

Vorige Behandeling. As besoekende-pasiënt het hy vir sewe maande vitamien C, kalsium en rutin ontvang. Daar was geen noemenswaardige verbetering nie en die letsels het 'n konstante patroon bly behou.

Weens die chronies tonsilitis was 'n tonsilektomie gedurende die ondersoeksperiode in die hospitaal gedoen. In die post-operatiewe periode het die pasiënt alleen klein dosisse pynstillende middels ontvang. Die dermatologiese beeld het in hierdie periode konstant gebly.

Barber [1] beskryf 'n geval van Schamberg se siekte met follikulêre tonsilitis, op wie 'n tonsilektomie gedoen was met die oog op genesing. Selfs met Penicillin behandeling het sy geval na 'n lang periode nog terugvalle gehad. Dus was daaraan gedink dat tonsilektomie op die beskryfde geval, ook geen noemenswaardige invloed sou hê op enige voorgestelde behandeling nie.

Behandeling. 300 mg. ACTH was beskikbaar gestel vir behandeling en dit was toegedien in verdeelde dosisse van 25 mg. sesuurliks. Om die doeltreffendheid van die behandeling te kontroleer was gebruik gemaak van:

I. Die Hess-toets, alleen op die arms toegepas.

II. Die kliniese waarneembare veranderinge wat betref: eriteem, pigmentasie, grootte, duidlikheid en ontwikkeling van verdere letsels. Hierdie toets is op die bene gebruik en hier is vóór behandeling 40 aktiewe en ander minder aktiewe letsels of groepe van letsels gekies, wat vir kontrole gebruik kon word.

Die resultate was as volg:

I. Een dag na behandeling:

(a) *Hess-toets*: Op elke arm het twee nuwe bloedings ontstaan. Ook hulle het soos voorheen in reeds bestaande letsels ontstaan.

(b) *Klinies*: Met uitsondering van een nuwe letsel en enkele rooi-peperkorrel-letsels, was alle tekens van eriteem afwesig. Pigmentsveranderinge was afwesig. Die grootte en duidlikheid was onveranderd.

II. Een week later: Hierdie waarnemings was gemaak na die pasiënt in die bosveld gaan jag en ongeveer 25 myl per dag gestap het vir vier dae lank.

(a) *Hess-toets*: negatief.

(b) *Klinies*: Geen aktiwiteit in die vorm van eriteem nie. Pigmentasie was minder en ligter en duidlikheid was swakker. Daar was minder letsels veral op die arms.

III. Na twee weke:

(a) *Hess-toets*: negatief.

(b) *Klinies*: Alle eriteem nog afwesig. Pigmentasie was baie minder en duidlikheid uiters swak. Die letsels was kleiner in grootte en minder in getal.

IV. Na een maand en weer na 4 maande:

(a) *Hess-toets*: negatief.

(b) *Klinies*: Op die arms, slegs enkele vaal swak gedefineerde areas. Op die bene was die letsels baie minder, kleiner en uiters swak gedefineerd. Absoluut geen tekens van aktiwiteit was teenwoordig nie.

BESPREKING

In die differensiële diagnose van hierdie siekte het hoofsaaklik Majocchi se siekte ter sprake gekom en dit was uitgeskakel op grond van:

1. Die perifeerwaarts uitbreidende rooi-peperkorrels met oorblywende sentrale hiperpigmentasie.

2. Die stadig progressiewe aard, of stilstand, van die siekte sonder skielike terugvalle of verbeterings.

3. Die mikroskopiese beeld het 'n afwesigheid van telangiektase, sakkulasie en hialine ontaarding getoon wat nodig sou wees vir die diagnose van Majocchi se siekte.

Ander toestande soos angioma serpiginosum en sekere vorms van purpura, veral purpura by hiperglobulienemie is op kliniese en laboratoriumbevindings uitgeskakel.

Die etiologie van die siekte is onbekend, maar die volgende was al genoem as moontlike faktore: fokale sepsis; toksiese beskadiging van die vaatwande; hipercholesterolemie; polisietemie; angiosklerose; statiese faktore; lokale angiëktase met kapillaarstase en diapedese van rooiselle (Kingery, aangehaal deur Wise [4]).

Wat die verloop van die siekte betref is dit, soos elders gemeld, gewoonlik stadig progressief van aard. Ander gevalle mag weer staties bly vir jare en so is gevalle bekend wat vir 23 jaar onveranderd gebly het (O'Donovan, aangehaal deur Junge [2]). Spontane genesing kan egter in enkele gevalle te enige tyd plaasvind.

GEVOLGTREKKINGS

Na aanleiding van bogenoemde uiteensetting en die uitslag van die behandeling sou die volgende gevolgtrekkings gemaak kan word:

1. Dat ACTH, skynbaar die enigste tot dusver bekende suksesvolle behandeling van Schamberg se siekte is, alhoewel verdere stawing hiervoor verwelkom sal word.

2. Dat, aangesien die pasiënt so goed gereageer het, Schamberg se siekte miskien onder die groep van kollageensiektes geplaas sou kon word.

3. Dat die proef met adrenalien moontlik kan onderskei tussen egte purpura en hierdie lus-tipe van kapillaarstuwing.

Graag word dank betuig veral aan dr. Findlay vir waardevolle hulp en kritiek en aan dr. Snyman en dr. Du Toit vir toestemming tot publikasie.

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RIFT VALLEY FEVER

I. THE OCCURRENCE OF HUMAN CASES IN JOHANNESBURG

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Rift Valley fever or enzootic hepatitis is an acute disease of sheep and cattle, caused by a virus, which presumably is transmitted by mosquitoes. The virus is pantropic, but appears to have a selective affinity for the parenchymal cells of the liver. These undergo a characteristic degeneration. The extensive necrosis of the liver is responsible for the high mortality rate, often over 90%, amongst newborn lambs. Most infected pregnant ewes abort and a considerable proportion die. Most infected pregnant cows also abort, but the death rate in cattle is not so high as in sheep. Man under natural conditions may be infected during the course of an epizootic in domestic animals. In man the disease is clinically characterized by an incubation period of four to six days, by a sudden onset of illness with pain and stiffness of the limbs, backache, severe headache, photophobia, by nausea occasionally vomiting and abdominal discomfort, and by fever lasting up to one week often and characteristically showing a biphasic temperature chart. The illness in man is very rarely fatal and is followed by a long lasting immunity.

This disease was first described in 1931 by Daubney, Hudson and Garnham [1] in Kenya. They studied an epizootic amongst the sheep on a farm on Lake Naivasha in the Rift Valley and proved that the causal agent was a filterable virus. The scientists engaged in the investigation all contracted a dengue-like illness characterized by rigors, pains in the back, headache and fever lasting from 12 to 36 hours. Further enquiry then revealed that almost all the native herders in the district had had a similar illness.

Since this original description it has become apparent that the infection is widespread in tropical Africa, including Uganda, Sudan, and French Equatorial Africa. As far as is known the infection does not occur under natural conditions outside Africa. Several infections have occurred amongst the laboratory personnel engaged in the study in England and the United States. Laboratory infections have revealed the typical picture of the illness caused by this virus in Man.

Findlay [2] in 1931 noted the occurrence of three laboratory infections in Man in England. In all three the infection apparently was acquired while performing necropsies on lambs infected with the Kenya virus. These patients suffered from a dengue-like illness characterized clinically by fever, rigors, headache and muscular pains. In the blood there was a primary leucocytosis followed by a leucopenia. Findlay also carried out a detailed study of the infections produced by this virus in laboratory animals. He noted that in monkeys a febrile non-fatal illness was produced with blood changes similar to those seen in Man. Cats exhibited a transitory infection associated with slight fever. He found that the virus of Rift Valley fever is highly pathogenic for mice, field voles, wood mice, dormice, and golden hamsters. The death rate is from 98% to 100% and occurs within 36 to 96 hours after inoculation. Rats are also very susceptible to the virus. The rabbit, guinea-pig, mongoose, hedgehog, tortoise, frog, hen, pigeon, canary and parakeet are non-susceptible.

He found that the characteristic pathological change was a focal necrosis of the liver. The foci may be discrete as in adult sheep, goats or monkeys, or tend to coalesce so as to involve the whole liver as in rats, mice and other small rodents. The cytoplasm of the cells show a characteristic hyaline degeneration. Findlay [3] in 1933 also noted the presence of acidophilic intranuclear inclusions in the liver cells of a variety of infected animals. These pathological changes are very similar to those seen in the livers of fatal human and rhesus monkey cases of yellow fever. However, it has been found that monkeys immune to yellow fever are susceptible to Rift Valley fever and that human immune yellow fever serum does not protect mice against the virus of Rift Valley fever.

Schwentker and Rivers [4] described a fatal case. The patient was a pathologist engaged in the study of the virus. Death was due to thrombophlebitis and occurred some weeks after the acute phase of illness and so can only be indirectly attributed to Rift Valley fever.

Francis and Magill [5] reported three cases of Rift Valley fever in individuals suspected of suffering from influenza. The virus of Rift Valley was recovered from the respiratory tract of the patients and was transmitted to ferrets by the intranasal route. The infection of the first case apparently was acquired whilst the patient, who, as a laboratory technician, was engaged in scraping and painting the walls and floor of an animal room. This room had been used to house the animals used for a study of Rift Valley fever. The mice had been kept under strict quarantine. The jars in which they were placed stood in pans of lysol and the legs of the table on which the jars rested stood in lysol. The task was completed 15 days before the onset of the patient's illness. It appears therefore that the virus had persisted in viable and infectious form for over three months in this animal room. The incubation period was prolonged as compared with the usual four to six days. They concluded that the Rift Valley fever virus may infect human beings via the respiratory tract. They also note that although the clinical differentiation of Rift Valley fever from influenza may be difficult, the correct diagnosis may be easily established by animal inoculation. Mice inoculated intra-abdominally with influenza virus suffer no apparent ill-effects. Mice similarly inoculated with Rift Valley fever virus die within two to three days and show marked liver necrosis.

Sabin and Blumberg [6] recorded an accidental laboratory

infection with a strain of Rift Valley fever virus, which had undergone at least 300 intracerebral passages in mice. This infection indicated that no modification in its pathogenicity for Man had resulted from these repeated passages. They found neutralizing antibodies in the blood on the fourth day after onset. In the next 10 days the neutralizing titre increased 30,000 fold to reach an index of over 1,500,000. They also demonstrated that neutralizing antibodies for Rift Valley fever virus were still present 12 years after a single attack in the serum of an individual who had no further exposure to the virus during the intervening years. Sabin also notes that the illness caused by Rift Valley fever virus is clinically indistinguishable from sandfly fever, but is unlike the type of disease produced in the majority of human beings as a result of primary infection with various types of dengue virus. He suggests that what in the past has been diagnosed as three-day or sandfly fever in certain parts of East Africa may well be examples of Rift Valley fever in Man. He notes that the differentiation between sandfly fever and dengue and Rift Valley fever is easily done by the intra-abdominal inoculation of mice. In dengue and sandfly this is without effect, whereas in Rift Valley fever the mice die in about two to three days.

Smithburn *et al.*[7] reported eight laboratory infections contracted at the Yellow Fever Research Institute at Entebbe, Uganda, in East Africa. The outstanding symptoms were headache, backache, anorexia and fever. The duration of fever ranged from two to six days. All these patients recovered without exhibiting any permanent sequelae, but the rapidity of convalescence was variable. The Rift Valley fever virus was isolated from the blood of each patient during the febrile stage of the illness and neutralizing antibodies were demonstrated in convalescence.

Three African employees, who were not known to have had Rift Valley fever, were found to be immune, a finding which was interpreted as indicating that these individuals had experienced subclinical infections as a result of contact with the virus in the laboratory. Smithburn notes that the risk of infection is very great amongst persons engaged in investigations on Rift Valley fever virus, but that the probability for complete recovery from the disease is high.

HUMAN CASES OF RIFT VALLEY FEVER IN JOHANNESBURG

EPIDEMIOLOGICAL AND CLINICAL FINDINGS

This paper records an outbreak of human Rift Valley fever which originated at the farm Rietvlei, 10 miles south of the centre of Johannesburg. This farm is conducted by the City Council's Social Welfare Department. It is about 400 morgen in extent and situated close to the junction of the Swartkoppies road and the Jackson's Drift—Natal Spruit road. Traffic from the Orange Free State coming via Vereeniging to Johannesburg may come along the Swartkoppies road. The farm is also about 4 miles as the aeroplane flies from Palmietfontein Airport, the South African International airport which receives traffic daily from Europe and the Central African Territories, including Kenya, where Rift Valley fever was first discovered. General mixed farming operations are undertaken, including dairy, piggery and poultry farming. On 9 April 1951 it was reported that a Friesland bull, one of a herd of grade Friesland cattle maintained at Rietvlei farm, was ill. The animal was examined on 10 April by Dr. P. J. Meara, Veterinary Officer of the Johannesburg Veterinary Department, who reported as follows:—

'Temperature normal, blood smear examination negative, complete loss of appetite, abdominal pain and constipation.'

Symptomatic treatment was ordered, but it was evident that the animal was in severe pain. About noon on the following day, 11 April, the animal became violent, blundered blindly through a fence, bellowed and died soon after.

A post-mortem examination was then carried out, four of the farm hands assisting Dr. Meara. Two of them held the animal's legs and did not handle the incised tissues. The other two did get their hands contaminated with blood in opening up the carcase. Dr. Meara examined the organs. Dr. Albertyn and Dr. Loveday, also of the Veterinary Department of Johannesburg, arrived on the scene two hours later. They also examined and handled the organs. None of them used gloves. Dr. Meara reported his findings as follows:—

'The intestinal mucosa was markedly reddened, especially of the small intestine and caecum. The bowel contents were bloody. The wall of the gallbladder was oedematous and haemorrhagic and approximately 2 to 3 cm. thick. The contents of the gallbladder seemed to consist mainly of blood. Localized areas of focal necrosis were present in the liver substance and peripheral necrosis of the hepatic lobules was evident throughout the liver. Multiple petechial haemorrhages, ecchymoses and extravasations were present under the epicardium, endocardium, pleura and peritoneum.'

Specimens of bowel and bowel contents, liver, gallbladder and kidney were sent to the Onderstepoort Veterinary Research Laboratories for toxicological analysis and pathological diagnosis. Portions of the liver and kidney were retained and stored in the refrigerator at the Abattoirs.

On Sunday, 15 April, the three veterinary officers and two of the farm hands who had assisted them became suddenly and acutely ill. The relevant histories of these five cases and of the two farm hands who did not report being ill are as follows:—

Case 1. Mr. Sw., aged 64 years, foreman chargehand of the farm. He began the dissection of the bull and assisted at the post-mortem. Four days later, on Sunday, 15 April, he did not feel well when he awoke, complaining of weakness, headache, and a tight feeling over the chest and vague discomfort in the limbs. He was feverish and later in the day became delirous. A medical practitioner was called, who suspected a commencing pneumonia and gave an injection of penicillin and ordered sulpha tablets. The following day he was given another injection of penicillin. On Tuesday, 18 April, he felt better but was weak. On 19 April his temperature and pulse were normal. He still felt weak, but was cheerful and eager to get back to work.

On 24 April he collapsed at work in the dairy. He was seen by his medical practitioner and a physician specialist, and a massive coronary thrombosis was diagnosed. He refused to go to hospital and so has been treated at home. So far he has made satisfactory progress.

Case 2. Mr. Sh., aged 35 years, helped in carrying out the post-mortem. On Sunday, 15 April in the early morning when he woke he had a slight headache. Later, he had a severe rigor, became feverish and then became delirious and

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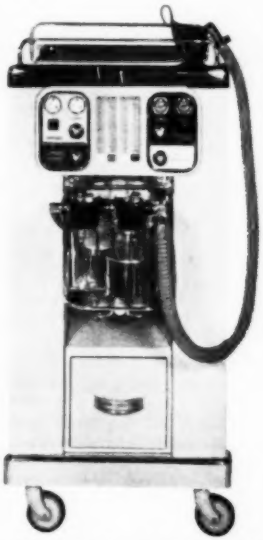
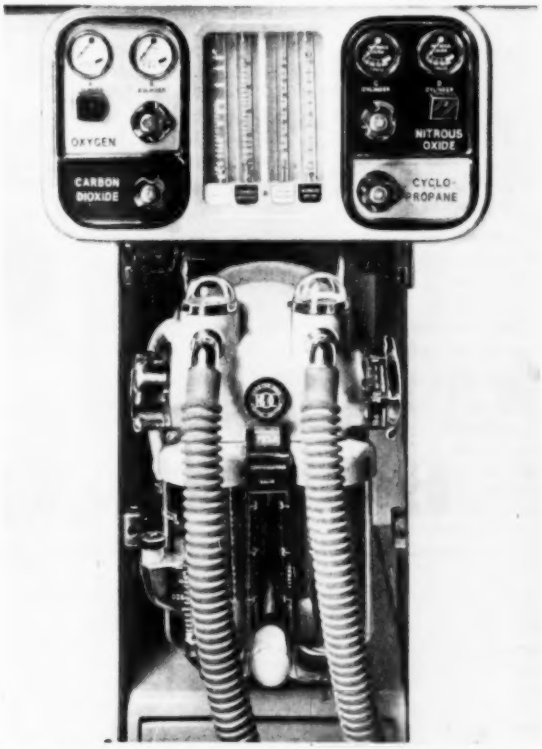


The Machine assembled for the administration of Nitrous Oxide, Ether, Chloroform or Trilene/Oxygen combination by semi-closed method, the standard Magill Re-breathing Unit being used.



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had a blackout. His eyes were red and sore. He had no appetite. He developed a slight cough, malaise, vague pains and discomfort in the limbs. His fever remained high on Sunday and Monday, but on Tuesday he felt better. On Wednesday he was better, temperature was normal, but he felt weak. On Thursday, 19 April there was a recrudescence of his symptoms. He felt bad, had headache, sore eyes, and temperature of 101° F. He still complained of sore and stiff limbs, and had no appetite. He sweated freely. The following day his fever subsided, but he felt very weak and sweated on slight exertion. Two weeks later he felt quite fit.

Case 3. Mr. M., aged 55, assisted at the post-mortem on the bull by holding the legs. He never reported being ill, but it was found on Wednesday, 18 April that he was not well. He then stated that early on Sunday, 15 April he felt weak and cold and had vague pains in his limbs. He made light of his symptoms.

Case 4. Mr. F., aged 25, held the bull's legs at the post-mortem stated that he had had no symptoms whatsoever.

Case 5. Dr. M., aged 39, carried out the post-mortem examination on the bull, freely handling the organs without wearing gloves. On Sunday, 15 April he felt ill, with lassitude, headache, backache, and vague discomfort and pains in the limbs, anorexia, sore and congested eyes and fever. These symptoms persisted until Tuesday, 17 April. On Wednesday, 18 April he felt much better but was weak. He got up on Thursday feeling weak. His weakness persisted for several days, then he felt fully recovered.

Case 6. Dr. L., aged 32 years, had arrived at the post-mortem examination of the bull about 4.30 p.m. and had handled the dissected tissues. On Sunday, 15 April he suddenly became ill just before noon, with rigors, headache, pains in the limbs and back, with sore congested eyes, and slight nose-bleeding. He also had anorexia and slight nausea. He felt better on Tuesday and got up and sat in his garden on Wednesday but felt weak. On Thursday, 19 April there was a recrudescence of his symptoms of headache, backache, pain and stiffness of his limbs and slight nose-bleeding. His temperature rose to 101° F. The following day he again felt better except for weakness.

Case 7. Dr. A., aged 33, accompanied Dr. L. to the farm and had also examined and handled the tissues of the dead bull without wearing gloves. At noon on Sunday, 15 April he suddenly became ill with rigors, very severe headache, backache, vague discomfort, pains in the limbs, red and sore eyes, photophobia and anorexia. He felt nauseous and vomited. His fever continued until Tuesday. On Wednesday, 18 April he felt better, but was very weak.

A blood count taken on Monday gave the following results:—

Leucocytes total	11,000 per c.mm.
Neutrophil	88.5%
Large mononuclear	3.5%
Lymphocytes	6.5%
Eosinophil	0.5%
Basophil	1.0%

The neutrophil leucocytes show toxic granulation.

LABORATORY INVESTIGATIONS

1. *Isolation of Virus from Bull.* A portion of the liver removed from the dead bull at post-mortem was stored in the deep freeze for one week. A part was then sent to the Onderstepoort Laboratories. On the same day a suspension was prepared at this Institute and inoculated intracerebrally and intra-abdominally into mice. These mice all died two to four days later. All of them showed an acutely congested swollen and friable liver. On microscopic examination it was noted that in most mice the parenchymal cells of the liver were degenerate. The cytoplasm of many cells showed a fuzzy hyaline eosinophilic degeneration similar to those described by Councilman and by Klotz and Belt in livers of human beings dead of yellow fever. The nuclei also showed eosinophil intranuclear inclusions. The small intestine of many of the mice were intensely congested and contained blood.

This pathological picture was similar to that produced by the virus of Rift Valley fever, which was suspected as being the cause of this outbreak. That it was indeed this infection which was responsible for the bull's death was proved by the Onderstepoort Veterinary Laboratories to whom a portion of the bull's liver had been sent for their study. The following report on this was received:—

'As a result of the biological test and pathological examination, it has been established that the bull died of Rift Valley fever. The sub-inoculations, filtration and neutralization tests prove beyond doubt that the disease was Rift Valley fever. The bull's virus is neutralized by known Rift Valley sera and also with sera from cases in the Free State.'

2. *Isolation of Virus from Human Patient Mr. Sh.* The blood of patient Sh., who was still febrile when the specimen was collected, was then inoculated into mice. These mice all died within five days of the inoculation. The post-mortem findings were identical with those produced by the virus isolated from the bull and so in keeping with the diagnosis of Rift Valley fever. This virus so isolated has been passaged several times, and in each passage all the mice have died and on post-mortem examination have shown the characteristic picture. Cross-immunity tests have proved that this virus is similar to the virus isolated from the bull and proved by the Onderstepoort Laboratories to be the virus of Rift Valley fever.

3. *Mouse-Protection Tests.* Blood was collected from the patients on 19 April, the fifth day after the onset of illness, and again on 30 April, fifteen days later, when the patients, except for Sw., who was suffering from a coronary thrombosis, had all clinically recovered.

The sera separated from these bloods were submitted to a mouse-protection test. A suspension of an infected mouse liver was prepared and diluted to form a suspension containing approximately 50 mld. 0.5 c.c. of this suspension was then added to 0.5 c.c. of each of the patients' neat serum. The mixtures were shaken and then incubated for half an hour at 37° C. Each serum virus mixture was then inoculated intra-abdominally into four mice. The virus suspension was titrated at the same time. These mice were observed for a period of one week.

With protective sera all the mice survived this period. With sera with no protective power all the mice died within one week, usually within three days.

The results of the protection tests were as follows:—

Patient		*Acute Phase (5th Day)*	*Convalescent Phase (15th Day)*	
1	0/4	negative	4/4	positive
2	1/4	negative	4/4	positive
3	1/4	negative	1/4	negative
4	0/4	negative	0/4	negative
5	0/4	negative	4/4	positive
6	0/4	negative	4/4	positive
7	0/4	negative	4/4	positive

It is apparent from the results of these tests, which were very clear cut, that of the seven suspected cases two gave negative results both in the early and late specimens. It will be recalled that both these patients did not report ill. It was only after questioning them that a suspicion of illness was aroused. If they were ill at all, which is doubtful, it seems their illness was not Rift Valley fever. On the other hand, the mouse-protection tests on the other

five cases clearly indicate that their acute illness was Rift Valley fever. The mouse-protection test results were fully supported by the results of the complement fixation tests.

Complement Fixation Test. The sera were submitted to a complement fixation test by Mr. Wolstenholme of this Institute. The technique of this complement fixation test will be described in a separate paper. The results of this test were as follows:—

Patient	*Acute 5th day*	*Convalescent 15th day*
1	negative	positive
2	negative	positive
3	negative	negative
4	negative	negative
5	negative	positive
6	negative	positive
7	negative	positive

These laboratory investigations have indicated clearly that the virus responsible for the patients' illness was the virus of Rift Valley fever. This infection has not hitherto been known to occur in South Africa. At first it was suspected that this virus had been introduced by air traffic as the farm Rietvlei is not far from Palmietfontein Airport, which receives traffic from Europe and Central Africa, including Kenya, where this disease was first discovered. This suspicion was discounted when it was found that the bull was infected towards the end of a widespread epidemic of this disease affecting the Western Orange Free State, North-Western Cape, and the South-Western Transvaal. A study of this epidemic was undertaken and is reported in the succeeding paper.

SUMMARY

The occurrence in Johannesburg of human cases of Rift Valley fever, a virus disease mainly affecting sheep and cattle, is reported. The source of infection was traced to a bull which died of an acute illness and on post-mortem examination showed necrosis of the liver. From this bull's liver a virus was isolated and proved to be the virus of Rift Valley fever. Three veterinary officers and two farm hands who took part in the post-mortem examination contracted the infection.

The illness was characterized by an incubation period of four days, a sudden onset with chills, painful stiffness of the muscles of the back and limbs, slight nausea, marked photophobia, severe headache and delirium, and fever lasting less than a week. In two cases the temperature chart was of a biphasic or saddleback type. One patient developed coronary thrombosis a week after his acute illness. The others made a rapid and uneventful recovery.

It was at first considered likely that the infection had been introduced by air, as the farm where the infection was contracted is in the neighbourhood of Palmietfontein Airport, which receives traffic daily from Central Africa, including Kenya, where Rift Valley fever was discovered. This suspicion was discounted, however, when it was found that a widespread epidemic of this disease in the Orange Free State and the Western Transvaal had preceded this outbreak.

We are grateful to Dr. M. C. Robinson, Director of the Abattoirs, Johannesburg Municipality, and to his staff, Dr. Albertyn, Dr. Loveday and Dr. Meara, and to the Director of Social Welfare, and the staff of the Rietvlei farm for their help, and to Dr. J. Scott Millar, Medical Officer of Health, Johannesburg, for his interest in these investigations; and to Dr. R. Alexander, Director of Veterinary Services and his staff at the Ondestepoort Laboratories for their help in the identification of the virus responsible for this outbreak.

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VAGINAL VAULT INJURY DURING COITUS

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In spite of the fact that vaginal vault tears are stated by Diddle (1948) to be relatively common, the relative paucity of published cases can be taken as an indication of the infrequency of this type of accident, or possibly, of such an injury not being thought of and diagnosis completely missed. A complete review of 133 cases of major vaginal coital tears is given by Diddle. The most common predisposing factors are mentioned, the commonest being experience of the first intercourse; the first intercourse post-partum or after abortion; post-menopausal or pre-pubertal intercourse with consequent disproportion and abnormal positions. In most cases a history of violence or brutality on the part of the male can usually be obtained.

The following case report is submitted because none of the above-mentioned common predisposing factors were present and because it also tends to bear out the extreme importance of a correct and adequate physiological and psychological approach to the coital act. It furthermore also bears out the fundamental importance of adequately preparing the woman emotionally and physically for coitus, a matter which certain males are inclined to ignore with consequent dire results for the women.

Mrs. M. M., a 23-year-old European nullipara, married for 16 months, was admitted to the gynaecological ward on 1 June 1950, at 6.0 p.m. with a diagnosis of incomplete abortion, probably self-induced. The history given to the Casualty Officer was that she had fallen from a chair

between 1 and 2 p.m. that same afternoon and had experienced a severe lower abdominal pain with vaginal bleeding starting soon after. On examination there had been no abdominal rigidity or tenderness, but vaginal bleeding was fairly profuse. When seen at 6.0 p.m., a vaginal examination was done and the uterus and adnexae were found to be normal with no sign of pregnancy.

Examination by speculum showed the cervix to be normal with a closed external os, but that there was fairly profuse haemorrhage from a one-inch tear in the left postero-lateral vaginal vault. A more intimate and detailed interrogation produced the history that the abdominal pain had come during coitus with her husband during the lunch hour and that the bleeding had started soon after. The patient further admitted that coitus had been unexpectedly forced on her and that it had taken place, much against her will, in the normal dorsal decubitus position. Previous marital relationships had always been normal and they had never experienced difficulty. The husband was also questioned and he admitted experiencing a sudden irrepressible urge and that he had been unduly hasty.

Under Pentothal anaesthesia the vagina was cleansed and the tear closed with four interrupted No. 1 chromic catgut stitches which completely controlled the bleeding. Post-operative progress was normal and the patient was discharged on the sixth day.

Reports such as these will continually act as a reminder that coitus may on certain occasions be a dangerous pastime with dire consequences especially as far as the woman is concerned. A noteworthy feature of such injuries is the extremely large number situated in the posterior vaginal vault, and the relatively small number found in the anterior fornix.

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NEW PREPARATIONS AND APPLIANCES

TRIMETON MALEATE SOLUTION AND TRIMETON MALEATE CREAM

Trimeton Maleate is Schering's brand of prophenpyridamine maleate. It has been available for some time in the form of tablets and has been proved of outstanding value in the relief of symptoms due to allergic sensitivity.

Trimeton Maleate Solution presents this antihistamine in an aqueous 0.5% solution designed for ophthalmic and nasal use. It acts as a decongestant in the eye, providing in most instances rapid clearing of the injected conjunctivae with subjective relief which frequently lasts for several hours. It is indicated for relief of ocular symptoms of an allergic or irritative origin, such as occur with hay fever.

Trimeton Maleate Cream provides this antihistamine in a special Procutan base for the local treatment of allergic dermatoses. The Procutan base is an odourless and greaseless solvent, allowing the active ingredient—Trimeton Maleate—to cover the skin in a smooth and uniform concentration.

Trimeton Maleate Solution is administered by instillation. Two drops in each eye three or four times a day, or less, as indicated. Nasal application: Three to four drops in each nostril, three or four times a day.

Trimeton Maleate Cream is applied topically where the skin surface indicates allergic sensitivity.

Trimeton Maleate Solution (Ophthalmic and Nasal 0.5%) is available in 15 c.c. dropper bottles.

Trimeton Maleate Cream (containing 30 mg. Trimeton per gram of Procutan base) in tubes of 20 grams.

Manufactured in the Union of South Africa by Scherag (Pty.) Ltd., 127 Anderson Street, Johannesburg, for and under the formulae and technical supervision of Schering Corporation, Bloomfield, N.J., U.S.A.

* * * *

SUBSTITUTE FOR BLOOD PLASMA

Description: The May & Baker product a 'synthetic substitute for blood plasma', will shortly be introduced into South Africa as Plasmosan brand of polyvinylpyrrolidone solution.

Indication: It is suitable for use in any condition where natural plasma is indicated.

Action and Dosage: Plasmosan has a viscosity and tonicity, similar to those of blood and exerts colloidal osmotic pressure, like that of the plasma proteins. It is physically compatible with blood and plasma in all proportions and is ready for immediate use. Normal infusion practice, regarding technique, quantity and speed of administration, should be followed.

Plasmosan does not interfere with normal grouping reactions and cross-matching following its administration, which distinguishes it from some of the earlier products which have been evolved by synthesis. Also, Plasmosan does not affect the normal mechanism of clotting nor does it cause haemolysis of healthy erythrocytes.

Plasmosan is stable over long periods, under normal storage conditions and has other advantages over natural plasma, such as freedom from risk of homologous serum jaundice and pyrogenic reactions, etc.

How Supplied: Plasmosan will shortly be available in cartons, holding four 540 ml. standard British transfusion bottles. A special closure is used on Plasmosan containers, for use with a two needle giving set, which will be available separately; this closure is readily removed for use with other types of infusion apparatus.

The preparation is obtainable from The Ethical Pharmaceutical Association of South Africa, P.O. Box 7796, Johannesburg.

* * * *

EUHAEMON—VITAMIN B_{12}

Euhaemon is a sterile solution containing 50 micrograms vitamin B_{12} (Cyanocobalamine) per c.c. Designed for intramuscular injection, Euhaemon restores the megaloblastic blood picture to normal and counteracts the neurological phenomena which are so frequently associated with pernicious anaemia.

The intramuscular injection of Euhaemon causes no discomfort, systemic or local reaction, and it may be used in patients who are sensitive to liver extracts. In addition to the remarkable haematological improvement following the injection of vitamin B_{12} in pernicious anaemia, disappearance of glossitis and improvement in strength and mental alertness are effected.

In pernicious anaemia, 1 c.c. of Euhaemon is administered intramuscularly once a week until a normal blood picture is obtained, followed by a maintenance dose of 1 c.c. at four weekly intervals. The dose necessary in severe cases with neurological involvement will depend upon the severity of the condition, but 1-3 c.c. should be given at weekly intervals and not reduced until maximum neurological improvement has been obtained.

In the treatment of sprue, clinical as well as haematological improvement follows the administration of Euhaemon in a dosage of 1 c.c. or more thrice daily in the initial stages, followed by a maintenance dose of 1 c.c. weekly. Vitamin B_{12} has a high haematopoietic activity in cases of nutritional macrocytic anaemia and in certain cases of macrocytic anaemia of infancy.

Euhaemon is supplied by Allen & Hanburys (Africa) Ltd., P.O. Box 860, Durban, in ampoules of 1 c.c. each containing 50 micrograms of vitamin B_{12} in boxes of six ampoules.

Echoes from the Past

ARCHIVES FOR A HISTORY OF MEDICINE IN SOUTH AFRICA

From The *South African Medical Journal*, 1886

Eastern Province and South African Medical Associations

Correspondence (11 August 1886, p. 22)

Dear Sir, In your paper you state there is an Eastern Province Medical Association and that it has separated from the S.A. Medical Association. Where are the headquarters of the Eastern Province Medical Association? Some time ago I heard an attempt being made to form such an association from Grahamstown, but I submit that the only Eastern Province Association which can be rightly so named ought to include the towns and villages on the Eastern System of Railway and that the Grahamstown Association would be better described as the Midland Medical Association. I will take this opportunity to suggest through the medium of your paper that an Eastern Medical Association be started, confined chiefly to the towns and villages on the Eastern System of Railway, but open to any medical man from any town or village in any part of the country who likes to join it. It must be evident to every one that the men who live on the Eastern Frontier can get as easily to Capetown as Grahamstown, and there is no advantage to us in having our local association at Grahamstown. I propose, therefore, that a local association be started on the Frontier, and that it be called the Eastern Province Association; that its headquarters be King Williamstown, and that Dr. Fitzgerald be asked to be its President. The South African Medical Association appears to be nothing more or less than a local association and might be called the Western or Capetown Medical Association. I am not surprised at the so-called Eastern Association separating from the so-called South African Association, for it doubtless feels what we all do that the South African Association does not carry out the object with which it was started. But the so-called Eastern Association is falling into the same error and is going to try to manage the affairs of the Easterns, from the Midlands. When the three local associations are formed and in working order it might be possible to federate for the common good.

I am, Sir,
Yours faithfully,
H. T. BATCHELOR.

Leading Article

The very opportune letter from Dr. H. T. Batchelor in another column, touches upon a subject very important to the practitioners of the Border districts. We are however afraid that it may be interpreted as having a slight ring about it of unfriendliness to the practitioners of Capetown and Grahamstown, who have taken the lead in initiating collective action amongst the members of our sadly disorganised profession. We do not think for one moment that Dr. Batchelor really means anything of the kind, but lest such an inference may be drawn from his letter, we hasten to place upon record the fact that the practitioners of the Border, as a body, are only too ready to accord all due honour to their brethren in the Western and Eastern capitals who have taken the lead in a good cause. It was only meet, of course, that the medical men of Capetown and Grahamstown should maintain the prestige of their respective cities by showing them the way they should go. They have opportunities of culture and intercommunication denied altogether to their brethren in the smaller towns and villages, and naturally are expected to do more. Nothing would be a greater mistake than any absence of harmony amongst the isolated members of the profession or any hoisting forth of separate standards. But at the same time it must be evident that medical associations in this country, if they are to be effective at all, must be somewhat localised. Means of communication are so scanty in this country that a railway system must be the only possible unit of geographical distribution in association matters. As Dr. Batchelor very truly says, it is just as practicable for a Frontier man to go to Capetown as Grahamstown. And from this we draw the deduction that local associations looking in some way to Capetown as headquarters, form the best solution of the difficulty. Probably the most satisfactory mode of procedure is for the units to be formed first and built up into a combination afterwards. This plan is far more likely to succeed than a 'swarming off' process, being less liable to be wrecked by local jealousies. Let contiguous groups of practitioners form associations each working on their own lines for a time, and then let them unite when a fitting time arrives. The Grahamstown Association is best fitted to judge as to a fitting title for itself. We should suggest 'Eastern' as being less open to objection than 'Eastern Province' being not so comprehensive.

And now, as regards the Frontier Association of which Dr. Batchelor speaks. No better president than Dr. Fitzgerald could possibly be selected, but at the same time we submit that King Williamstown is not nearly so central for a preliminary meeting as Queenstown. If Dr. Batchelor will consult his colleagues in that town and communicate with us, we shall be glad to undertake the task of convening a meeting there and doing our best to forward the scheme of a Frontier Medical Association. But other districts must

move likewise. Kimberley has now men of a stamp calculated to build up a very successful association. Natal likewise should do its part and Port Elizabeth with Uitenhage, Humansdorp and Alexandria ought also to have a branch of some kind. In order to assist the formation of societies we shall be happy to have printed a number of circulars setting forth the objects of such associations, blank spaces being left for time and place of meetings, and to furnish these gratis to any of our confréres who may desire to call their brethren together to set local schemes on foot. Who will respond to this offer? We hope many (11 August 1886, p. 21).

ASSOCIATION NEWS : VERENIGINGSNUUS

NATAL COASTAL BRANCH: CLINICAL MEETING HELD ON 30 JULY 1951

Present: 60 members. The chairman introduced Mr. Nils L. Eckhoff, M.S., F.R.C.S., who was an old Durban High School boy. He had been away from Durban for 30 years and this was a happy reunion. Mr. Eckhoff is on the surgical staff at Guy's Hospital and East Grinstead Plastic Centre.

Mr. Eckhoff said he would speak on 'Reconstruction of the Face'.

Reconstructive surgery of the face in war time, is mainly concerned with effects of explosives, gunshot injuries and bad burns; in peace time, with excision of rodent ulcers, carcinoma and other malignant lesions.

Mr. Eckhoff proceeded to demonstrate a number of slides. Whenever a facial lesion is excised whatever its nature or size, the problem of filling the gap without deformity arises. In other parts of the body it may be possible after excision of a portion of the skin, to obtain closure by dragging the parts together with sutures. Grafting immediately asserts itself in the minds of people. The free transfer of skin from a distant part is often the last method to be entertained. The best results are by using tissues from the near vicinity of the defect by means of local flaps.

There are four main varieties:—1. Sliding flaps; 2. Advancement flaps; 3. Rotation flaps; 4. Transposition flaps.

1. *Sliding flaps* are frequently used. The defect is closed by sliding skin, after suitable undermining, from each side of the defect.

2. *Advancement flaps*. A single flap is advanced to cover the defect. Quite a large defect of the skin can be covered by this manoeuvre. One incision in the naso-labial groove, and another under the eye, with the intervening tissue dissected up, sufficiently deeply to preserve the blood supply, produces a fine wedge-shaped flap which can then be advanced to cover quite a formidable defect.

3. *Rotation flaps*. In this method the flap is once more obtained from one side of the defect. A neck defect is easier to close than a scalp defect. A cheek defect can be made good by an incision, extending back to the ear behind the angle of the mandible into the neck. The whole enormous flap is raised sufficiently deeply to take care of its blood supply and rotated into the defect.

4. *Transposition flaps*. This flap, usually horse-shoe shaped, is raised and rotated on its base to jump over a piece of intervening skin and set into a defect, e.g., a nasal defect can be covered by a flap from the forehead or a defect of the upper lip, by a flap from the cheek. If these methods are not suitable a facial defect can be closed by a flap from the abdomen transported via the wrist.

The tube pedicle is another method. The flap is made into a tube at first, later it is attached to the wrist and later still detached from the abdomen and set into the defect. The interval between the stages is about three weeks. There are certain hazards in this method and if a position of the pedicle is lost it may ruin the result. The texture and colour of the flap may not correspond sufficiently with the recipient site.

Free grafts take last place in final facial reconstruction, but are extremely useful in certain sites and as a temporary repair. The most satisfactory types of free grafts, are razor grafts (Thiersch) and full thickness dissected grafts (Wolfe). These have been used extensively in repair of the burnt face. The first used for burnt eyelids and the latter for lips, cheeks and sometimes noses.

In free grafts it is important to keep reasonable pressure on the graft for five to 10 days; the colour may not always be too good, it may be too white, too brown, or even too yellow. Skin from behind the ear or the neck is a better match than skin from the arm, leg or abdomen.

In some cases bone or cartilage may be required to support soft tissues and this may be obtained from the ilium and cartilage from the cadaver of the ox.

Mr. Eckhoff presented cases of rhinoplasty for gunshot wounds of the face, cleft lip and lupus and mentioned that the work had been greatly assisted in the last year by low pressure anaesthesia: the blood pressure is reduced to 50 or 60 mm. Hg. and the absence of bleeding is quite remarkable. This method is still in its experimental phases. The projecting school-boy ear was demonstrated and its repair.

The meeting was then open for discussion and the following doctors took part: Mr. J. Raftery, Mr. A. Lurie, Drs. D. Cuthbert, L. Mundy, F. E. Ingle, S. Fine, S. Wassyng. Mr. Arthur Copley proposed the vote of thanks and the meeting terminated at 10 p.m.

NATAL COASTAL BRANCH: MEETING HELD ON 30 AUGUST 1951

Present: Dr. A. Broomberg in the chair and 80 members. The first case was presented by Dr. H. L. Wallace, entitled:—

1. *A Case of Pica with Unfortunate Results*. Dr. Wallace gave a short talk about pica, or dirt-eating, in infants. The child aged four years, was fretful on admission, would not eat and in poor general health. There was marked hyperaesthesia of the soles of the feet but no fever. There was a change of the picture in one week, during which weakness of legs, knee and ankle jerks diminished, then disappeared and was followed by a flaccid palsy. The cerebrospinal fluid was normal.

Diagnosis. A peripheral neuritis.

Examination of the blood showed a punctate basophilia; X-ray of the long bones suggested lead poisoning. This was shown by an area of sclerosis at the end of the metaphyses.

The Public Health Department was called in to investigate the home conditions and it was discovered that the child was consuming paint from the window sill which contained lead carbonate. The case was one of chronic lead poisoning, with a slow progress after five months' admission to hospital and a bilateral drop foot, but the child was able to walk since that time.

Dr. Fine and Dr Cuthbert asked whether BAL and parathyroid had been used. The answers were in the negative, but Dr. Wallace stated that calcium had been given.

2. *Fracture of Femur Treated by Internal Fixation*. Mr. Butcher demonstrated six cases of injury to the femur, and their treatment. Statistics of the frequency of fractures of the femur for a year from January 1950, showed 69 neck fractures and 31 shaft fractures, all in adults. Of the neck type, mortality, 15.9%, the patients were over 83 years of age—one, when operated on, was over 83 years of age, while the oldest case, when operated on, was 92 years and the youngest 43.

The first case was a fracture of the neck of the femur treated with a Smith-Petersen pin.

The second case was a male, aged 20 years, who had a

motor-cycle accident, with fracture of the shaft of the femur. The fracture was operated on and immobilized with an intramedullary nail introduced through the fracture.

The third case, a boy aged 16 years, had both femora plated at the same time. This boy had multiple fractures of various bones, developed tetanus but made an excellent recovery except for a shortening of the one foot.

The fourth case, aged 57 years, had osteoarthritis of the hip. A cup arthroplasty was done.

The fifth case, a boy aged 17 years, had a slipped upper-femoral ephysisis. This was immobilized by the Smith-Petersen pin.

Specimens of the instruments used in these procedures were on display.

3. A short talk, entitled *Recent Advances in Electro-Diagnosis*, with a note on electro-therapy in relation to denervated muscles.

Dr. Struan Alexander spoke about the reaction of degeneration test, which was really a test of electrical excitability and revealed the difference between functional and organic disease. This method has fallen into disuse.

He discussed the electronic valve which was a test of (a) strength (b) duration.

He also presented the Ritchie-Smeath apparatus, with one control time of 1 mill. seconds and the other, control strength from 0 to 150. The results are recorded on a chart. He mentioned that stimulation of muscles makes them retain their nutrition.

4. *A Case of Buerger's Disease*, by Mr. Arthur Copley and demonstrated by Mr. Butcher. The patient was a male aged 18 years.

History. Pain of sudden onset in the right leg, duration six hours; pain of the toes and arch of the foot, which extended to the calf. For the past two years there was pain in the calves of both legs. The patient was accustomed to walking 1½ miles to work; he experienced cramp in the feet during swimming and the limb became cold, numb and blue.

Previous History. He had malaria at six years of age. He said he smoked 20 cigarettes a day since the age of 11 years.

On admission, the leg was cold from the knee down and discoloured. A lumbar sympathetic block was done. Temperature readings before and after revealed no appreciable change.

The peripheral pulses were found to be: left leg palpable, with normal volume; right leg, femoral pulse, palpable; popliteal pulse, barely palpable; dorsalis pedis pulse absent. Amputation was carried out six days after admission.

5. Three cases treated with ACTH (Dr. J. A. Macfadyen). The first case presented was one of Still's disease, a girl aged 21 years, pale, anaemic, sweating, thin, with joint deformities and a hectic temperature. At the age of 10 years recurrent attacks and one or other joint immobile. The spleen was palpable. Blood sedimentation rate, 39.

Treated with ACTH, a general rash appeared after a few days and treatment was withdrawn. She was put back on to Sodium Salicylate 200 gr. per day at first and 120 gr. thereafter. Despite the Sodium Salicylate she receded after the tenth to the twelfth day. After two to three days of treatment with Cortisone there was a dramatic response. She was then put on to ACTH and the improvement was maintained. Ten mg. was given six-hourly and later increased to 20 mg., eight-hourly with improvement. Eosinophils increased up to 300 per c.mm. Colchicum ointment applied locally, improved the movement of the knee. She stayed in hospital for three months. There was no glycosuria: the blood pressure remained at a constant level.

The second case was one of acute rheumatic fever, in a man of 24 years of age, a bus driver. Four days before admission he had swelling of the knee; next day, swelling of the hip, then of the ankle, with moderate pyrexia.

Seven years ago he had rheumatic fever. Heart: mitral stenosis; blood sedimentation rate, 29; ACTH 10 mg. was given six-hourly; within 24 hours he became asymptomatic; blood sedimentation rate, 29 (no change).

Third case, a male aged 44 years, also a bus driver. Complaint: looseness of the bowels and blood in the stools for 1½ years. There was a history of amoebiasis. Though treated for amoebic dysentery a year ago, he still has diarrhoea. Sigmoidoscopy was negative. There was intense inflammation with multiple ulcers and the bowel had a rich red colour. Paracolon bacilli were found in the stool, not responding to phthalylsulphathiazole. Emetine gave no response. On ACTH, 10 mg. six-hourly he improved within 24 hours and was better on 20 mg. six-hourly. Two more sigmoidoscopic examinations revealed nothing abnormal. He gained 6½ lb. in weight.

Dr. Macfadyen gave a general discussion on the length of treatment, dose, etc., and stated that 75% to 80% gave satisfactory suppressive results, 20% showed no response. Adverse effects were change in fat, carbohydrate and protein metabolism and the electrolytes became altered; also acne, purpura, pigmentation of the skin; menstrual, skeletal and psychic changes and a few cases with coronary thrombosis were noted.

6. *Multiple Secondary Deposits in Bone*. Mr. H. C. Warner showed a case of multiple secondary deposits in bone in a woman patient whom he had first seen in July 1946, with a lump in either breast. On 5 August, a right Halsted's operation was done; the left breast had no malignant changes. She was symptom free till December 1947. X-ray of the spine was negative. Six months later, when she was re-examined, a lesion was found in the lumbar spine. For four years there were continual secondaries, which grew to a certain size and then stopped.

There were signs of an upper motor neurone lesion, with recently a facial palsy of short duration. She was treated with deep X-ray therapy and testosterone was given.

Investigations:—

Serum alkaline phosphatase, 10 King-Armstrong units;
Urine, no Bence-Jones reaction;
Plasma proteins, 6.25%;
Albumin-globulin ratio, undisturbed;
Serum calcium, not done.

The X-rays were demonstrated by Dr. Nathan Sacks and he stressed the point made by Mr. Warner that pain precedes X-ray changes in the spine and that one must be careful of the prognosis concerning duration of life. There were gross changes in the skull and numerous other bones.

7. *Some Errors in Haematology, with a Demonstration of Slides*. Dr. Holman produced various statistics in haematology and presented some common errors, in which cases had been classed as pernicious anaemia without sufficient evidence and subjected to expensive and lengthy treatment.

For pernicious anaemia he suggested a marrow biopsy for megaloblasts, and a gastric analysis. He said anaemia was a symptom only; the physical signs had reference to the anaemia if this was neglected. The appearance of the tongue and the nails was important and was often due to an iron deficiency. A secondary anaemia was often neglected and the condition treated as a case of pernicious anaemia. He considered the differential blood count of greater importance than the red cell haemoglobin estimation and mean corpuscular volume. He also referred to the use of B_{12} and folic acid as bad practice in all forms of anaemia, quoting the case of a girl of 17 years, treated as a case of pernicious anaemia since 1948 with iron, liver, B_{12} and folic acid, whereas she was suffering from myxoedema and required thyroid.

Dr. Thomas corroborated Dr. Holman's warning on the indiscriminate use of B_{12}.

Dr. Broomberg thanked the speakers and Addington Hospital for the evening, which terminated at 10.30 p.m.

GRIQUALAND WEST BRANCH: MEETING HELD ON 27 SEPTEMBER 1951

Dr. G. T. Tandy was in the chair and there was a fair muster of members present.

Minutes of the previous meeting were read and confirmed.

Other business. The Branch expressed its strong approval of the stand being put up by the East London Branch in its memorandum. It further accepted the proposal 'that the medical profession refuse to assume responsibility for collecting any fees normally chargeable by the Provincial Administration'.

Clinical business. *Dr. Norman Weinberg* opened the proceedings by presenting the case of a European woman, aged 61, who presented with low back pain of a girdle

nature, which occurred in bed when she stretched herself. X-ray revealed complete collapse of the twelfth dorsal vertebra.

The question here is that of diagnosis. Is it infective, traumatic or due to secondaries? Careful search failed to demonstrate a primary focus. There is no history of injury, but nevertheless is it a collapse of an old fracture?

Dr. Bishop suggested Kummel's disease. Here an injury may have occurred 15-20 or more years before. The sudden onset of symptoms occurs on the basis of a gradual osteoporosis, occurring over a long period.

Dr. Lowenthal advised investigation (Bence-Jones proteinuria) for myeloma. Though rare, the condition demonstrated was also rare.

Mr. A. B. de Villiers Minnaar considered Kummel's disease more of a radiological diagnosis. The patient is too fit, for it to be a malignant growth and the likelihood is an old fracture which has recently collapsed under strain.

Dr. B. W. Franklin Bishop, in collaboration with Dr. L. Schrire, presented a case of an elderly Native male who was assaulted and sustained a laceration of the upper eye lid. This had been stitched by a Native orderly. A marked cicatrical ectropion had developed. It was decided to do a full thickness tubular graft from the forehead and bring it down in stages to fill in the cicatricialized upper lid. The final result has been most gratifying.

Mr. A. B. de Villiers Minnaar presented a 57-year-old Native woman who came up complaining of numerous lumps on neck and elsewhere. The lump in the neck had made the right arm 'go lame'.

On examination there were numerous neurofibromatous nodules. A large nodule in the neck had obviously involved the brachial plexus producing an early claw hand. The main interest in her case was the presence of a typical congenital pseudoarthrosis of the lower third of the tibia and fibula.

Mr. Minnaar stated that these cases are not birth fractures. They usually present when the child starts walking. They may present as an anterior bowing of the tibia, a dimple (constriction) of the skin, or a line of demarcation at the junction of middle and lower third of the tibia. When commencing to walk, the fracture occurs and it does not unite nor respond to normal lines of treatment, not even a simple bone graft, in which cases gradual lysis occurs with refracture. Usually the surgeon waited until the child was adolescent and then a below the knee amputation was performed. Recently the double onlay maternal graft (America) and bipass maternal graft (Britain), produced a certain percentage of success. First-attempt failures are frequently reported, but every subsequent attempt means a further bone loss, so that by the third attempt amputation is the better course.

Dr. H. Lowenthal presented a case of a young woman, three weeks overdue, who developed sudden violent abdominal pain, with distended abdomen and all the other signs of a ruptured ectopic pregnancy.

When the abdomen was opened, free blood was found in the peritoneal cavity, bright-red blood was dripping from one tube and dark, 'haematoma' blood exuded from the other tube.

On opening the uterus a massive concealed haemorrhage was demonstrated behind the placenta.

The question put to the meeting was whether this condition could have been diagnosed pre-operatively?

Dr. Lowenthal presented another case, of a Native woman, who after the birth of her first child, developed a tremendous vesico-vaginal fistula. This was repaired in the usual manner. Unfortunately the repair broke down and it was therefore decided to do an extraperitoneal transplantation of the ureters (Stiles method).

Recovery was quite uneventful. Rectal control is now excellent. It was stressed that Bands of Edinburgh suggested that pitressin given four-hourly, post-operatively, would prevent post-operative distension, was a most useful addition to the after treatment of this case.

Dr. J. Botha presented a Native woman, aged 17, who three days before admission went into a semi coma (which lasted five days in all). When seen she had a Weber's syndrome (right sided hemiplegia, at first flaccid and now commencing to become spastic and third nerve paralysis). The Kahn test was negative. The cerebrospinal fluid contained no blood or cells, pressure 200 mm. water; normal protein and chlorides; B.P. 100/80 mm. Hg. On the first day her temperature was 100° F. but was normal since. Thrombosis and cerebral aneurysm presumably can be eliminated. Is this then a case where one lesion is to be postulated or a double lesion (patchy distribution), e.g., poliomyelitis or syphilis?

The cerebrospinal fluid Kahn (Ide), and colloidal gold reaction is being done. The second lumbar puncture still showed a pressure of 150 mm. water.

PASSING EVENTS

S.A.N.T.A.

His Excellency the Governor-General, Dr. the Hon. E. G. Jansen, has graciously consented to become Patron-in-Chief of the South African National Tuberculosis Association.

Dr. K. Bremer, Minister of Health, has become a patron of S.A.N.T.A.

IMPORT CONTROL AND ESSENTIAL MEDICAL SUPPLIES

From time to time medical practitioners have been assisted by the Medical Advisory Committee to bring into the Union essential medical supplies not obtainable through the usual commercial channels.

It is a contravention of the import control regulations to allow imports to come forward without permit cover and colleagues who may have any orders outstanding with surgical instrument firms in England, America or elsewhere, should check on these orders to see whether they are likely to be fulfilled and apply for import permits *before* the goods are despatched. Should such orders be for goods in normal stock in the Union, the order should be cancelled as import permits are unlikely to be granted by the control authorities.

INTERNATIONAL STANDARD FOR ACTH

The World Health Organization has adopted as an International Unit for ACTH Armour's standard (LA-1-A). The United States Pharmacopoeia is now setting up as a provisional unit a unit exactly equal to the International Unit.

MATERNAL AND FAMILY WELFARE

The South African National Council for Maternal and Family Welfare, through the medium of its Mothers' Clinics in the Cape, Natal and Transvaal, continues to do valuable work, particularly for the least privileged members of the community, irrespective of race or creed.

The latest report of the Cape Town Mothers' Clinic (1 April 1950 to 31 March 1951) sets out very concisely the scope of activities. Instruction in family spacing has been maintained satisfactorily. Routine gynaecological examination of all new cases and annual re-examination of old cases have been carried out and results have again proved of great value to the health of the mothers. By these services it has been possible to detect at an early stage conditions which might have led to serious illness. Adequate treatment at hospitals has been arranged whenever necessary.

Medical practitioners interested in this work in the Cape should communicate with Mrs. R. L. Scott, 'Bizana', Southfield Road, Plumstead, C.P.

Practitioners in other provinces can obtain details about the Council's work on Maternal and Family Welfare through the Secretary and Treasurer, Mrs. B. Belonje, P.O. Box 181, Nylstroom, Transvaal.

* * * *

The report of the Second National Conference on Tuberculosis (May 1951) has now been published. It is entitled *Tuberculosis in South Africa* and contains the full texts of the talks given by the Hon. the Minister of Health and Social Welfare,

Dr. K. Bremer, the Mayor of Cape Town, Councillor C. O. Booth, Dr. G. W. Gale, Dr. B. A. Dormer, Mr. W. L. Phillips, F.R.C.S., the National Secretary, Mr. G. E. Stent, Mr. P. C. Sykes and Miss C. Greig.

Copies of this report can be obtained at S.A.N.T.A. Head Office, Empire Building, Johannesburg. Price 5s. per copy.

* * * *

Dr. S. Jacobson has joined Drs. Andrew C. Watt and Allan V. Bird as a partner in neurological and psychiatric practice at 404 Medical Centre, Jeppe Street, Johannesburg.

TRANSVAAL GOLFING SOCIETY OF THE MEDICAL ASSOCIATION

A Point Stableford Competition will be held at the Royal Johannesburg Golf Course, on Sunday afternoon, 2 December 1951. Prizes will be awarded to the best three scores returned, and after the prize-giving, the Annual General Meeting will be held to elect Office Bearers for the ensuing year.

Entries stating name, official handicap and address should reach: Mr. M. K. Tucker, 81 Pasteur Chambers, Jeppe Street, Johannesburg (Telephone 23-8133), not later than 24 November 1951.

All members of the Medical Association are eligible to enter.

THE BENEVOLENT FUND

The following contributions to the Benevolent Fund during September 1951, are gratefully acknowledged:

Votive Cards: In Memory of:

Dr. J. S. Morton *by* Sister E. Stinton.

Dr. J. A. Weir *by* Dr. L. M. van der Spuy, Dr. A. W. Sichel, P. E. Simpson, Mr. and Mrs. E. E. Vines, R. O. Kyte, Audrey and Douglas de la Harpe, Mr. and Mrs. D. D. Dunn, Tony and John du Toit and Mrs. E. B. Imrie, Donald and Peggy, Rev. W. N. H. Tarrant, Cape Town Branch Old Andrean Club, Dr. P. J. M. Retief, Dr. M. Cole Rous, Pilot, Stella, Grannie Ellis and children, J. M. Caradoc-Davies, Mr. R. D. H. Baigrie, his parents, brothers, and sisters, Mr. and Mrs. D. G. van Breda, Prof. J. F. Brock, Diocesan School for Girls (Grahamstown), Old Girls' Guild (Cape Town Branch), Mr. and Mrs. A. G. Baker, Dr. and Mrs. D. S. Davies, Miss B. A. Pilson, E. W. Kent, Mrs. G. Scott, Dr. H. H. Jacob, Dr. and Mrs. J. T. Louw, Drs. Greenfield and Davis, P. and L. van Winsen, Mr. and Mrs. C. Le Feuvre, Mollye Cowell, Mr. and Mrs. C. Guard, Mr. and Mrs. B. Corder, Dr. A. J. Morris, Mr. and Mrs. W. E. Plimsol, Mrs. E. J. Moller, Dr. R. Lance Impey, Dr. J. D. Wicht, Dr. P. Massey, Mr. and Mrs. J. Campbell, Mr. Justice and Mrs. J. E. de Villiers, Mr. and Mrs. A. Gordon-Brown, Nell Findlay, C. S. Solomon, Miss S. F. Lees and Miss I. M. Kerr, F. P. S. Deelman, Mr. L. B. Goldschmidt, J. R. Fullalove, Dr. H. A. Moffat, Miss M. K. Sedgwick, E. Bjornsgaard, W. H. Opie, J. G. Louw, Dr. D. P. Marais, A. D. K. Craig, Dr. D. A. Birch, Mr. and Mrs. R. Hacking, Mr. and Mrs. M. Smuts, Dr. W. G. Schulze, Kath and Eric Gurney, Mrs. M. F. Bremner, T. and J. Findlay, Mr. and Mrs. A. W. Judge and Dr. E. Judge, Hilda, Horton and Eddie, Honorary Medical Staff, Nurses and Trained Nursing Staff—Rondebosch Hospital, Mrs. J. T. Dobbie, Dr. Kay, Dr. E. C. Greenfield, Drs. Luke and Brink, W. J. Hopkins, Dr. J. van Selm, Dr. J. B. Bekker, Mrs. Patience Harding, E. E. W. Christie, Mr. and Mrs. J. Gibson, Miss I. Ainslie, Mrs. C. M. Ainslie, D. V. Seeton.

Mr. F. L. Bester *by* Dr. A. W. Sichel.

Dr. W. Robertson *by* Dr. A. W. Sichel, Mr. L. B. Goldschmidt, Dr. H. A. Moffat, Dr. C. H. Krüger.

Mr. A. G. Albers *by* Mr. L. B. Goldschmidt.

Dr. K. Frater *by* Drs. Luke and Paterson, Dr. C. H. Krüger.

Mr. Truter *by* Dr. J. J. van Zyl.

Dr. E. E. Wood *by* Dr. C. H. Krüger.

Dr. J. A. Lloyd *by* Dr. A. E. Pinniger.

Total Amount received from Votive Cards:	135	19	0
Services Rendered to:			
Israel, During and Kossüth *by* Dr. R. Geerling.			
Dr. H. J. du Toit *by* Prof. W. E. Underwood and Dr. Devitt.			
The late Mr. S. Ruskin *by* Drs. S. Berman and P. Leftwich.			
Dr. A. Simpson Wells *by* Drs. V. Brink, C. Saunders and W. C. Clark.			
Mr. J. Commerell *by* Dr. J. S. du Toit.			
Total Amount Received from Services Rendered:	32	6	0
Donations:			
Cape Western Branch (Collection Box)	2	19	1
	£171	4	1

BOOK REVIEW

AIDS TO ANATOMY

Aids to Anatomy (*Pocket Anatomy*). Eleventh Edition. By R. J. Last, M.D., B.S. (Adel.), F.R.C.S. (Pp. 379 + vii, with 60 illustrations. 7s. 6d.) London: Baillière, Tindall and Cox. 1951.

Contents: 1. The Joints. 2. The Muscles. 3. The Vascular System. 4. The Veins. 5. The Lymphatic System. 6. The Nervous System. 7. The Nerves. 8. The Sense Organs. 9. The Organs of Digestion. 10. Organs of Voice and Respiration. 11. The Urinary Organs. 12. The Male Genital Organs. 13. The Female Genital Organs. 14. The Ductless Organs. Index.

The first edition of 64 pages appeared in 1876. The present edition of 379 pages approximates more closely the titles *The Pocket Gray* or *The Pocket Anatomy* by which it was formerly known. The reviewer wishes to emphasize that this book is essentially for *revision*, and for this purpose it may even be dubbed *First Aids to Memory*.

Professor Last has revised this book admirably and adequately.

In praising the simple, clear and most instructive diagrams (especially the three-dimensional cross-sections), the reviewer at the same time deprecates the suggestion made to students 'to fill the compartments in as an exercise' (presumably in the book) as this would ruin the diagrams and the pages.

It is felt that the author may have included his description of the spleen either in, or between the concurrently described vascular and lymphatic systems, rather than in the section on the ductless glands.

The autonomic nervous system has definitely not been brought into line with current knowledge, and no mention is made of any *afferent* pathway in this system.

Taking the book as a whole, the print is clear, the sketches are self-explanatory and the context is an understandable précis of the large anatomical tomes. The final-year undergraduate will find this book sufficient unto the needs of revision.

CORRESPONDENCE

TRAVEL BROADENS THE MIND

To the Editor: A recent announcement by the S.A. Medical Council that a member of the Springbok rugby team is to be allowed to forego six months of his compulsory internship* has prompted the following short essay into the realms of fancy.

'Sport enthusiasts will be gratified to learn that Prof. Dern Tooting, M.S., F.R.C.S., M.D., M.R.C.P., etc., has been chosen to captain the Blesbok Ice Hockey team when it tours the British Isles next month. The professor, who recently celebrated his 82nd birthday, informed me in an interview that although he had had little if any experience of the game, he expected great things of himself and his side. "I feel sure that my researches into the life cycle of the malarial mosquito will stand us in good stead when we meet the other side." And with a merry twinkle in his eye he added: "The S.A. Ice Hockey Council, bless them—have fully justified their average mental age of 5½—in including a non-player in the team. They tell me that the many visits I will make to ice-rinks all over the country will soon make up for my lack of actual playing experience." And with a gentle eructation into his ear trumpet the venerable professor returned to his microscope and his Plasmodium.'

C. J. Blumenthal.

C.N.A. Buildings,
Oxford Street,
East London.
21 September 1951.

[* The President of the S.A. Medical and Dental Council states that the period of condonation is two weeks (See p. 808). —*Editor.*]

APPEAL ON BEHALF OF THE BENEVOLENT FUND

To the Editor: At the Federal Council Meeting, held on 21 September 1951, the report of the Management Committee of the Benevolent Fund was submitted. To my amazement and extreme disappointment I found that only £6,778 9s. 5d. had been received from practitioners in the Transvaal who served the Provincial Administration as honoraries (actually in an unofficial capacity) during the interim period.

It will be remembered that a sum of £50,000 was awarded by the Transvaal Administration in respect of honoraria. The amount already donated, naturally represents the total received up to date of the drawing up of the report, which was a few weeks before the meeting of Federal Council. As one of the honoraries, I anticipated that the Benevolent Fund would benefit to the extent of £20,000 at least!

A direct appeal was made to all honoraries to donate a substantial amount of their honoraria to the Benevolent Fund. I think the response has been deplorable. A number of honoraries donated either the whole or a large percentage of their honoraria. Great credit is due to them. The amount of £50,000 was a windfall that no one had budgeted for and it would not have been missed if it had not been awarded. A number of honoraries who were enthusiastic about donating their honoraria, before they knew the amount they were to receive, either never donated a penny or only a very small percentage of their honoraria.

I know of specialists who held appointments at two different hospitals, who received an honorarium at each hospital, running into a few hundred pounds at least and yet donated nothing. We, who are on branch councils and on Federal Council, well know the pathetic appeals for assistance from the Benevolent Fund by aged, indigent medical practitioners, widows and other dependants of medical practitioners.

Here is a typical example dealt with at the recent Federal Council Meeting:—

Mrs. . . .: In response to a request from the . . . Branch, the Committee agreed to a grant of £5 per month for the support of the two minor children of this beneficiary.

Five pounds a month for a child, what a pittance!

Increased calls for assistance and the need to assist urgent cases, has necessitated the curtailment of the amounts granted. The Law Society has a similar fund. They are in a much stronger financial position than we are and can assist much more liberally.

I feel I must urgently appeal to all those honoraries who have not yet donated to the Benevolent Fund, or who have only donated a small percentage of their honoraria. Please remember what the Association did for you in August 1948. Perhaps you intended to send a donation, but have been merely forgetful. A donation from you will keep those less fortunate than yourself. Please send it now.

L. O. Vercueil.

P.O. Box 20,
Maraisburg,
Transvaal.
23 September 1951.

EAR, NOSE AND THROAT DISEASE INCIDENCE

To the Editor: With great interest I read the research done by Dr. P. S. Meyrick on the incidence of diseases of the ear, the nose and the throat, published in our *Journal* of 29 September 1951. First of all I wish to thank the author for his more than useful research, associating myself completely with his recommendations and conclusions, especially with regard to the necessity of a dental service and of a special mobile unit in this vast zone of a Native Reserve.

However, I cannot understand the reason why the author has omitted to say that he did his research work at St. Rita's Hospital of Glen Cowie Mission, a hospital with more than 60 beds, supported by the Provincial Administration of the Transvaal under the Free Hospitalization Scheme, especially for the fact also that in the said hospital he has gathered his material for Table 2 of his interesting work.

Very few and probably still insufficient are the dislocated hospitals in this densely populated Native area, and it seems only fair that the Provincial Administration's great merit for their continued effort in always increasing the service for the public health among the Natives of the Reserves should be well recognized.

U. Giunchi,
Missionary Doctor-in-Charge.

St. Rita's Hospital,
Catholic Mission, Glen Cowie,
Middelburg, Transvaal.
8 October 1951.

[On p. 703 of the issue of 29 September 1951, Dr. P. S. Meyrick makes the statement that the material in Table 2 was the result of the examination of two groups of children at the Glen Cowie Mission Station—*Editor.*]

MALIGNANT MALNUTRITION

To the Editor: I would like to make some further comment on the Query and Answer in reference to malignant malnutrition published in your *Journal* of 6 October 1951.

Most authorities agree that in malignant malnutrition lowered plasma proteins, especially the albumin fraction, are found, but there is a difference of opinion about the correlation between the lowered plasma proteins and the oedema. Altmann [1] states that the oedema is not dependent on or proportional to the degree of hypoproteinaemia. Wendenburg and Zillmer [2] and Hartman *et al.*[3] in describing cases of hunger oedema concur with Altmann's view; but Walters *et al.*[4] in their account concerning repatriated Indian prisoners of war, found a good correlation between the oedema and the low serum albumin.

The main therapy in malignant malnutrition has been directed to the administration of proteins in one form or another, maas or dried skimmed milk (D.S.M.). Brock [5] reports good results with D.S.M. and in our experience this form of therapy alone is successful in the mild case, with oedema of the ankles and an enteritis which shows signs of clearing; but with intractable diarrhoea and a generalized oedema, this form of therapy is of no avail. Gelfand [6] also found that the oedema of malignant malnutrition responded only slightly, if at all, to a diet rich in first-class proteins. It is reasonable to assume that in these cases the atrophied gut (McKenzie [7]) cannot absorb protein.

The aetiological warp and weft, as it is termed by Trowell, of malignant malnutrition is far more complex than a simple protein deficiency. We have seen at this Centre three cases which might represent typical *Mehnährschaden* mentioned by Altmann.[1] These babies were fed entirely on a flour and water mixture. These cases had the appearance of skeletons with extensive pellagra but no oedema. One weighed 4 lb. 4 oz. at the age of two months. With D.S.M. and Procasenol, there was rapid improvement. What are the aetiological factors which cause simple wasting in one case and extensive oedema in another? We have found, contrary to Altmann's experience that the 'dry' cases respond well to protein therapy.

It is reasonable to assume that infection plays a considerable part in the aetiology. In our series of 32 cases with oedema, 23 gave a history of severe diarrhoea before the onset of the oedema, five had a history of infections and only four gave no previous history. In 21 atrophic cases, seven had no previous history of note, eight had severe enteritis and the rest had some form of infection. It is clear the enteritis *per se* does not determine the onset of oedema.

To pursue this matter further, from the analogy of beriberi, thiamin should produce some response, but in our cases it had no effect in reducing the oedema. Rosedale [8] showed that a factor other than vitamin B_1 was needed to prevent the occurrence of oedema. At present no such factor has been isolated.

To determine if there was any salt retention, in nine cases the urinary sodium chloride excretion was measured. With oedema, the range was from 3-8 gm. per litre. In one case no salt was excreted but this case was complicated by severe burns. When the oedema subsided in this case the salt excretion rose from 0 to 9 gm. and in another case from 4 to 14 gm. when the oedema subsided. Further estimations are being carried out and an endeavour made to establish the norm in Native children. Potassium chloride to replace the amounts lost with enteritis does not seem to affect either the oedema or the sodium excretion.

Your correspondent replies that mercurial diuretics are of no use unless cardiac failure is present. At first we were chary of using these diuretics because, if there was cellular dehydration, the loss of water from the extracellular fluid would tend to increase the dehydration. In spite of these theoretical considerations Mersalyl was used in five severe cases with generalized oedema with no heart failure. All these cases, where normally the chances of survival are not very good, recovered. Youmans [9] stresses the value of mercurial diuretics but emphasizes the temporary nature of the therapy in preventing the stretching of the tissues and the development of chronic swelling.

Perhaps the most useful contribution to this whole problem has been made by Wendenburg and Zillmer [2] who demonstrated that hunger oedema was not due solely to a fall in the osmotic pressure of the blood but a direct damage to the capillary walls. They found that the petechial index was roughly proportional to the degree of oedema and that the capillary damage takes much longer to repair than the plasma protein level. This would explain the failure of protein therapy to alleviate the oedema in severe cases. The cause of the damage to the capillaries is unknown; but Cagliari quoted by Leone [10] found an increase in histamine in the blood in infants suffering from gastro-enteritis. Leone obtained excellent results by administering antihistamine drugs to infants suffering from acute nutritional disturbances. It would appear also that a lack of vitamin C would play some part in capillary damage.

With these facts in view, a treatment has been devised which aims at the repair of the capillaries, the alleviation of the oedema, the supply of protein and the treatment of intercurrent infections. The details are as follows:—

1. Dried skimmed milk powder and water.
2. Elixir Benadryl, one dram *t.d.s.*
3. Ascorbic acid—200 mg. per day.
4. Mercurial diuretics intramuscularly if the oedema is severe.
5. Bandaging the lower limbs.
6. When the oedema is subsiding, liver intramuscularly or Mist. Ferri Hepatica.
7. The treatment of intercurrent infections, especially the enteritis, always presents a problem. Enemata help a great deal. Sulphonamides are contra-indicated. Penicillin is essential if broncho-pneumonia is present.

We have not tried Rutin, which theoretically should be a useful adjuvant to this therapy. The following results are noted:—

Five cases, all of whom have recovered were treated with the above seven items without Benadryl. A further three very severe cases have been treated with Benadryl in addition. All have recovered. One of these cases, the severest in my experience, lost 9 lb. in 20 days' treatment with the subsidence of the oedema. The ascorbic acid was not commenced immediately, but its administration was concurrent with an increase in the sodium chloride excretion.

It is too early to come to any sort of conclusion on the value of this therapy. As severe cases of malignant malnutrition are comparatively rare in the general out-patient clinics of this Centre, these notes might be of help to your enquirer and those in hospitals who have more cases and greater facilities than we possess.

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Evaton Health Centre, S. B. Sachs,
P.O. Evaton. *Medical Officer-in-Charge.*
11 October 1951.

CONDONATION OF COMPULSORY INTERNSHIP

To the Editor: It has come to my notice that the impression has been left in the minds of many colleagues that the South African Medical and Dental Council condoned the entire period of compulsory internship in the case of Dr. E. Dinkelman.

I am anxious that it be known that the Council in fact only condoned a period of a fortnight out of the entire 12 months, and that this was done with the knowledge that Dr. Dinkelman has already been invited to visit a number of foremost hospitals in the United Kingdom, which will to a large extent compensate for the short period condoned.

S. F. Oosthuizen,
P.O. Box 437. *President: S.A. Medical and Dental Council.*
Pretoria.
16 October 1951.

DISTRICT SURGEONS AND DRIVERS UNDER THE INFLUENCE OF ALCOHOL

To the Editor: As a district surgeon in an urban area, where I am called out several nights a week to examine car drivers under the influence of alcohol, I have, like Dr. Lappin, often felt that this work is a prostitution of a high calling. Moreover, I, too, doubt whether the whole thing is worth the candle, for I have had the humiliation of hearing a magistrate declare an accused not guilty when I have sworn in evidence that he was drunk. Other district surgeons have had similar experiences. But, seeing that one cannot withhold from an accused his right to call a private doctor to examine him when he is charged with being drunk in charge of a car, one must allow the police to have their technical evidence too. There's the rub.

Louis Sive.
Wynberg.
22 October 1951.

The Medical Association of South Africa
Die Mediese Vereniging van Suid-Afrika

AGENCY DEPARTMENT : AGENTSKAP AFDELING

KAAPSTAD : CAPE TOWN

Posbus 643, Telefoon 2-6177 : P.O. Box 643, Telephone 2-6177

PRAKTYKE TE KOOP : PRACTICES FOR SALE

(350) Eastern Cape hospital town. Total gross receipts for preceding 13 months £3,700. One appointment. Premium of £2,000 includes drugs, surgery furniture, fittings, etc. House for sale at £3,000. Large bond available. £700 rebate if appointment not transferred. Practice offers great scope for practitioner with surgical ability.

(644) Durban Central. Mainly Indian and Native cash practice. Average annual gross income £1,235. Premium of £500 required for goodwill, inclusive of furniture and fittings and drugs. Terms may be arranged.

(836) Oostelike Provinsie. Dorp met moontlikheid van hospitaaldienste binnekort. Medisyne word aangemaak. Jaarlikse ontvangste gemiddeld £2,266. Twee aanstellings. Huis en apteek teen £12 p.m. te huur. Premie van £1,500 sluit ligte installasie in. Geen opposisie nie.

(821) Eastern Province hospital town. Gross cash receipts £2,200. Premium required £850 which includes drugs, furniture and instruments valued at £350. Mainly non-European at present but with definite scope for future.

VENNOOTSKAP VERLANG : PARTNERSHIP REQUIRED

(811) Partnership share in Cape or Natal in predominantly English-speaking practice with min. net income £2,500 p.a.

ASSISTENTE/PLAASVERVANGERS VERLANG ASSISTANTS/LOCUMS REQUIRED

(834) Assistant for Transkei Native practice from approx. 14 January. Commencing salary £75 p.m. plus board and lodging at hotel; and/or locum from end November for approx. one month, salary £2 2s. p.d. plus all found.

(843) Northern Cape. February. Must have own car. Three guineas p.d. plus all found, plus car allowance £30. Possibility assistantship.

(830) Suid-Westelike Kaapland vennootskapspraktyk. Vanaf Januarie vir ongeveer nege maande. £2 2s. p.d. plus reisonkoste en losies toelae.

* * * *

JOHANNESBURG

Medical House, 5 Esselen Street. Telephones 44-9134-5, 44-0817
Mediese Huis, Esselenstraat 5. Telefone 44-9134-5, 44-0817

PRAKTYKE TE KOOP : PRACTICES FOR SALE

(Pr/S30) Johannesburg Partnership practice plus Solus practice. Mainly non-European. Present income £3,600 p.a. Premium for quick sale £1,250.

(Pr/S31) O.V.S.-praktyk. Goeie geleentheid vir algemene geneesheer met aanleg vir snywerk. Alle fasiliteite. Medisyne word aangemaak. Moet tweetalig wees. Jaarliks inkomste £2,400. Eienaar gaan verder studeer. Premie vir klandiesiewaarde, instrumente en voorrade, £1,500. Een maand introduksie sal gegee word.

MEDICAL EQUIPMENT

(I/019) Zeiss microscope. Condition as new. £55.
(I/020) "Standby" model Baumanometer. £10.
(I/021) Portable Baumanometer. £3.
(I/022) Klinostik Auroscope with Ophthalmoscopic attachment. £3.
(I/023) Heavy based Irrigator stand, height adjustable, complete with glass flask and hook to carry vacolitre flasks. £7.
(I/024) Bausch & Lomb microscope. Condition as new. Oil, high and low power lenses. Two eye-pieces. £60.

PLAASVERVANGERS VERLANG : LOCUMS REQUIRED

(L/V138) Suid-Vrystaatse dorp. Vanaf 1 Desember tot 30 Desember. Salaris £2 2s. p.d. plus 1s. per myl plus vry inwoning.

(L/V139) Free State mining town. From 27 November 1951 to 1 January 1952. £3 3s. p.d. plus all found. Car not essential.

AGENCY DEPARTMENT : AGENTSKAP AFDELING
(Continued : Vervolg)

DURBAN

112 Medical Centre, Field Street, Telephone 2-4049

PRACTICE FOR SALE

(D1) In large coastal town, total gross receipts from June 1950 to June 1951, £4,995.

Premium £3,100 includes drugs, fittings, surgery furniture and instruments.

Terms could be arranged with reasonable cash deposit.

Owing to ill-health owner wishes to sell immediately.

LOCUM REQUIRED

(D2) Durban. From 15 December 1951 to 15 January 1952, £2 2s. per day, all found. Preferably male, single. General practice. Knowledge of Afrikaans essential. Car provided. R.M.O. appointment held.

Divisional Council of Montagu

PART-TIME MEDICAL OFFICER OF HEALTH

Applications are invited for the post of part-time Medical Officer of Health at an inclusive salary of £120 per annum.

Applicants must furnish full details of qualifications. Services to commence on 1 January 1952.

Copies of the Memorandum of Agreement covering the duties and conditions of appointment can be obtained from the undersigned.

Applications in sealed envelopes marked 'M.O.H.' must reach the undersigned not later than Saturday, 24 November 1951.

Canvassing of Councillors will be a disqualification.

Divisional Council Office — J. P. le Grange
P.O. Box 36 — *Secretary*
Montagu
12 October 1951

Afdelingsraad van Montagu

DEELTYDSE GENEESKUNDIGE GESONDHEIDS-BEAMPTE

Aansoeke word ingewag om die betrekking van deeltydse Geneeskundige Gesondheidsbeampte teen 'n allesinsluitende salaris van £120 per jaar.

Applikante moet volledige besonderhede van kwalifikasies meld. Dienste moet op 1 Januarie 1952 aanvaar word.

Afskrifte van die Memorandum van Ooreenkoms betreffende die pligte en voorwaardes van aanstelling kan van die ondergetekende verkry word.

Aansoeke in verseelde koeverte gemerk 'Gesondheids-beampte' moet die ondergetekende nie later dan Saterdag 24 November 1951 bereik nie.

Stemwerwing by raadslede sal 'n diskwalifikasie wees.

Afdelingsraadkantoor — J. P. le Grange
Posbus 36 — *Sekretaris*
Montagu
12 Oktober 1951

University of the Witwatersrand, Johannesburg Medical School

POST-GRADUATE COURSE OF INSTRUCTION—MASTER OF SURGERY

A course of instruction in the principles and practice of surgery in preparation for the degree of Master of Surgery may be offered in 1952.

The prescribed application form may be obtained from, and must be returned by 15 December 1951 to, the Assistant Registrar, Medical School, Hospital Hill, Johannesburg, from whom further information is available. (7916)

For Sale

Watson service microscope, two eyepieces, three objectives, including 1/12-inch oil immersion. In perfect condition. Complete in wooden case. What offers? Write to 'A. I. X', P.O. Box 643, Cape Town.

Southern Rhodesia Government

VACANCY: MEDICAL OFFICER: DEPARTMENT OF HEALTH

Applications are invited from male medical practitioners for appointment as a Government Medical Officer in Southern Rhodesia.

Salary Scale: £804 × 33—£1,200 per annum plus cost-of-living allowance at present amounting to £187 per annum on the lowest step, and if applicable, children's allowances. The right to private practice may be granted, or an allowance paid in lieu (at present at the rate of £200 per annum), at certain stations where private practice is not permitted. The commencing salary may be higher than the minimum of the scale (but not exceeding £936 per annum), in recognition of approved previous experience.

The successful applicant will be stationed at Salisbury or Bulawayo in the first instance, and will be required to carry out relieving duties at smaller centres. Duties will include the supervision of European and Native Hospitals and Clinics; attendance upon Government patients and school children; performance of medico-legal work; routine public health duties; and any other work of a medical nature which may be allocated by the Secretary for Health. Motor transport will be provided for official duties. Accommodation is not provided except at some smaller centres. The appointment will be subject to the rules and regulations of the Southern Rhodesia Civil Service.

The successful applicants will be required to obtain a satisfactory certificate at a medical examination by a Southern Rhodesia Government Medical Officer, and also a residence permit from the Britsh Immigrants Selection Board.

Applications stating age, marital state, nationality, qualifications (with dates), previous experience (with dates), date available, and the names of two persons to whom reference may be made, should be sent, together with copies of three recent testimonials, to reach the Secretary for Health, P.O. Box 93, Causeway, Salisbury, Southern Rhodesia, on or before 30 November 1951.

Canvassing will disqualify applicants. (4637)

University of the Witwatersrand, Johannesburg

FACULTY OF MEDICINE

POST-GRADUATE DIPLOMA COURSES—1952

A few of the following Diploma courses may be offered during 1952:

Diplomas	*Duration of Course*	*Tuition fee*
Public Health	1 year	£120
Tropical Medicine and Hygiene	6 months	£60
Clinical Pathology	1 year	£120
Psychological Medicine	2 years	£60 p.a.
Ophthalmic Medicine and Surgery	1 year	£120
Physical Medicine	1 year	£120
Child Health	1 year	£120
Anaesthetics	6 months	£60
Forensic Medicine	1 year	£120
Medical Radiology	2-3 years	To be announced
Radiological Diagnosis	2-3 years	To be announced
Radio-Therapy	2-3 years	To be announced

Such courses normally begin early in February.

Applications for admission should be lodged before 10 November 1951 with the Assistant Registrar, Medical School, Hospital Hill, Johannesburg from whom further particulars may be obtained.

Applicants will be notified as soon as possible thereafter whether or not the course for which they have applied will be held.

3 October 1951 (7917)

Receptionist

Young lady, aged 23, fully bilingual, with knowledge of typing, seeks position in Cape Town. Previous experience in reception duties gained as travel hostess on S.A. Airways. Please reply to De Klerk, 79 Main Road, Kimberley.

South African Railways and Harbours Sick Fund

APPOINTMENT OF RADIOLOGIST (DIAGNOSTIC AND THERAPEUTIC): EAST LONDON

Applications are invited from registered radiologists for the position of radiologist (diagnostic and therapeutic) to the Sick Fund for the Cape Eastern District at the salary of £2,268 per annum, plus the fees and allowances prescribed by the regulations of the Sick Fund, and with the right of private practice.

The duties will be X-ray examination and treatment of Sick Fund beneficiaries resident in the Cape Eastern District, including X-ray examinations of Sick Fund beneficiaries in any hospital, nursing home or sanatorium in East London, where X-ray plants are available.

The salary will be subject to adjustment in accordance with the census of members to be taken on 1 April of each year.

The appointment will be made in terms of the Regulations of the Fund, and will be subject to termination on four months' notice being given by either side.

The successful applicant will be required to reside at East London, to take up the appointment on a date to be arranged, and to carry out his duties in accordance with the Regulations of the Fund.

Applications should reach the District Secretary, Cape Eastern District Sick Fund Board, 19 Terminus Street, East London, not later than 30 November 1951, and should state:—

1. Full name.
2. Qualifications (where and when obtained).
3. Experience (where and when obtained).
4. Date of birth.
5. Country of birth.
6. Whether married or single.
7. Whether fully bilingual.
8. Whether South African citizen.
9. What Government appointment if any, is held.

Canvassing by or on behalf of any applicant is liable to disqualify such applicant.

Any further particulars required may be obtained from the District Secretary at the above address, on application.

P. J. Klem
General Secretary

Johannesburg
3 November 1951 (15)

Medical Officer

Applications are invited from medical practitioners in Kempton Park, for the position of Panel Doctor to the undermentioned society.

Conditions of appointment will be in terms of the requirements of The Medical Association of South Africa.

Please reply with full particulars to The Secretary, Alpha Harris Benefit Society, P.O. Box 24, Knights.

Assistantship Required

Young married Jewish doctor seeks assistantship or assistantship with view to partnership in Johannesburg or Reef. Has had experience in large general practice, experienced in anaesthetics and has worked in specialized chest hospital. Own car. Available immediately. Write to 'A. I. V.', P.O. Box 643, Cape Town.

Radiographer Wanted

Radiographer wanted in private practice in Odendaalsrus. Commencing salary £35 per month plus accommodation. Annual increase of £60 per year for first four years. Apply to The Advertiser, 10 Weskant Gebou, Odendaalsrus, Orange Free State.

Specialist Anaesthetist

Assistant with view to partnership in flourishing practice. Good prospects. State age, experience, etc., to 'A. I. W.', P.O. Box 643, Cape Town.

Siekefonds van die Suid-Afrikaanse Spoorweë en Hawens

AANSTELLING VAN RADIOLOOG: KAAPSTAD

Applikasies word van geregistreerde radioloë ingewag vir die pos van radioloog, Kaapstad, teen 'n salaris van £5,506 per jaar, plus die gelde en toelaes wat in die regulasies van die Siekefonds voorgeskryf word, en met die reg om privaat te praktiseer.

Die pligte sal bestaan uit Röntgen-ondersoek van Siekefondsvoordeeltrekkers wat in die Wes-Kaaplandse Distrik woonagtig is, insluitend Röntgen-strale op Siekefondsvoordeeltrekkers in enige hospitaal, verpleeginrigting of gesondheidsinrigting in die Skiereiland en Noordelike Voorstede, waar Röntgen-masjiene beskikbaar is.

Die salaris is onderhewig aan wysiging in ooreenstemming met die sensus van lede wat op 1 April van elke jaar afgeneem word.

Die aanstelling geskied kragtens die regulasies van die Siekefonds en opsegging van dienste is onderworpe aan vier maande kennisgewing deur een van beide partye.

Die suksesvolle applikant moet te Kaapstad woon, op 'n datum wat gereël sal word dienste aanvaar, en sy pligte ooreenkomstig die regulasies van die Siekefonds uitvoer.

Aansoeke moet die Distriksekretaris, Distriksiekefondsraad, Security Gebou, Exchange Place, Kaapstad, nie later nie as 30 November 1951 bereik, en applikante moet die volgende vermeld:—

1. Volle naam.
2. Kwalifikasies (waar en wanneer verkry).
3. Ondervinding (waar en wanneer verkry en opgedoen).
4. Datum van geboorte.
5. Land van geboorte.
6. Getroud of ongetroud.
7. Of ten volle tweetalig.
8. Of Suid-Afrikaanse burger.
9. Watter staatsbetrekking, indien enige, beklee word.

Werwing deur of ten behoewe van enige applikant stel so 'n applikant bloot aan diskwalifikasie.

Enige verder besonderhede wat verlang word, kan op aanvraag van die Distriksekretaris by die bovermelde adres verkry word.

P. J. Klem
Hoofsekretaris

Johannesburg
3 November 1951 (16)

For Sale

1940 Sanatas X-ray unit, table and bucky £300; 1951 Siemens ultratherm complete £220; 1940 Davis-Bovie surgical diathermy £120; 1950 McCarthy electrotome £95; 1946 set of three Brown-Beurger cystoscopes with extras £200; 1950 Avery baby scale £20; 1946 upright weighing machine Stathmos £20; 1946 Davison pneumothorax unit £20; 1940 Genito pneumothorax unit £10. The above are all in perfect working condition. Write to 'A. I. P.', P.O. Box 643, Cape Town.

Radiotherapist

There is a vacancy in private practice for an assistant with a view to a partnership. The commencing salary is £2,000-£3,000 a year, depending on qualifications and experience.

Applicants should make certain that they have the necessary qualifications to be put on the specialist's register in South Africa. Full personal and professional particulars should be forwarded, 'A. I. Z.', P.O. Box 643, Cape Town.

Medical Officer

Johannesburg firm requires part-time medical officer. Rates £1 2s. 6d. per annum per employee. Apply in writing to Managing Director, P.O. Box 9998, Johannesburg. (2190)

Assistantship

Assistantship or long-term locum tenency required in Cape Town area. Commencing about May 1952. Write to 'A. I. Y.', P.O. Box 643, Cape Town.

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